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INTERNATIONAL LABOUR REVIEW

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Freedom of Association and Trade Unionism:

An Introductory Survey

by

Jean NICOD

During its Twentieth Session, in October 1923, the Governing Body instructed the Office to examine the question of the application of the principle of freedom of association in the different countries, and asked that a preliminary report should be submitted to it at its January Session.

The preparation of this report was entrusted to Mr. Jean Nicod. It was his last piece of work, for he died on 16 February. His untimely death deprives the Office of one of the most remarkable members of its staff, and his colleagues of an intellect and a personality. which were rightly appreciated by all who knew him. A distinguished graduate of his University, with a wide knowledge of foreign languages, alive to economic and social problems, and gifted with a keen intellectual curiosity, the versatility of his knowledge and quality of his scholarship were amazing. All his work shows those qualities of accuracy, logic, method, and luminous clarity which are the mark of the finest minds, and which in his case were reinforced by his training in the austere discipline of philosophical studies, combined with extraordinary resources of mental activity. Only a few weeks ago the Academie des Sciences Morales and Politiques awarded the Gegner Prize to his work in philosophy.

These special qualities will be found in the article below, which contains a clear statement in synthetic form of the limits of the problem and its essential features. Allowing for the fact that it is only a brief and perhaps hurried outline — and more than this the author would have been the last to claim — it may none the less stand as an example of his ability and a tribute to his memory.

THE principle of the right of association has no long history behind it ; it is an idea of yesterday, if not of to-day. The movement for the association of industrial workers grew up at the time of the Industrial Revolution which occurred in different countries

at various dates in the nineteenth and twentieth centuries; but in no country was it allowed free scope. In some countries the revolutionary and liberal movements which swept away the mediaeval guilds left behind them a sense of profound hostility towards all industrial associations. In other countries the principle of the guild survived, but it no longer met the needs of the factory worker.

The legal position of workers' organisations was originally dependent upon that of the right of combination. When the movement for collective bargaining on conditions of labour developed, the simultaneous combination among the workers clearly showed that a new problem had come into being. At first it aroused alarm, and, in accordance with the strictly individualistic conception of the free play of supply and demand which then prevailed, it was severely penalised. Trade unions, as a natural form of combination, were regarded with constant suspicion.

With the general progress of events and ideas, however, combination ceased to be regarded as criminal. It came to be tolerated, and this destroyed the presumption of illegality which had been used against workers' associations as soon as they embarked on defensive industrial action.

The situation was thus completely changed. While collective action was prohibited, the state was hostile to associations because they might lead to such action. Once this was tolerated, however, the state could not fail to realise sooner or later that workers' associations might regularise it, or even render it unnecessary. It was further realised that employers' and workers' organisations might do good work by making their members conscious of their social responsibilities, which were constantly increasing with the growth of industry. The unrestricted development of employers' and workers' organisations thus appeared as a lesser evil and later as a desirable thing. These changes formed part of a universal movement towards general freedom of association to which all recent national constitutions bear witness. This new spirit the authors of the Peace Treaty proclaimed as a principle for adoption by all communities.

The constitutions or laws of all countries now affirm that all citizens, including workers, are free to form associations. There is, however, no word which can be used to represent more widely divergent facts than freedom; it can only be defined by determining its limits. Freedom of association may thus be defined, or in other words limited, in many different directions. A trade union may be required to fulfil various initial formalities on its creation. It

may be subjected in the course of its work to permanent or occasional supervision. In most countries, again, it may be condemned to death; in other words, the authorities have more or less extensive powers to dissolve it. The trade union may or may not be protected by law against pressure intended to deprive it of its members or to prevent new members from joining it, while on the other hand it may or may not be prevented by law from exercising pressure itself in a contrary sense. Its relations with its members may be impeded by legislation the effect of which is to prevent the maintenance of discipline. Again, more or less severe restrictions may be imposed upon the composition of the trade union and the aims which it is allowed to pursue; its sphere of action may be defined by legislation within wide or narrow limits.

The relations of the industrial association with the authorities; its membership and internal discipline; the delimitation of its sphere of action — these may be regarded as the three main aspects of the right of association and the three directions in which its limits are defined by law.

Legal Status of the Industrial Association

The right of association in industry is, of course, one aspect of the right of association in general; but the exact relation between the two varies in different countries. In some countries industrial associations are simply subject to the general law on associations (Denmark, Esthonia, Finland, Germany, Latvia, Lithuania, Netherlands, Switzerland). More frequently, however, the general law on associations is restricted, extended, or supplemented in various degrees and directions in its application to industry (Belgium, Greece, Hungary, United Kingdom, United States, etc.). In some cases industrial associations are governed by laws on this subject alone (Brazil, France, Roumania, Serb-Croat-Slovene Kingdom).

The extent to which the status of industrial associations is determined by general or special legislation is no doubt in many cases due merely to the hazard of drafting texts. It would have been desirable, in order to explain the precise attitude of the legislature to the trade union movement, and perhaps the actual facts which it represents, to place the legislation on association in its precise relation to the general system of national law. This is, however, impossible in the present brief report.

In some countries the regulations applying to industrial associations are not uniform; certain categories of workers, such as railwaymen and government officials, are subject to special rules. In most cases, however, workers' associations are in principle given a choice, allowed to acquire certain advantages, but on certain conditions. This appears to be the case in the majority of countries (Argentine, Australia, Belgium, Brazil, Finland, Germany, Greece, Italy, Latvia, Netherlands, United Kingdom, United States). The privileges which may thus be obtained differ considerably in their nature and practical importance; and consequently the conditions attached to them have been accepted by the workers' associations in varying degrees.

In some countries membership of an industrial association is compulsory, either in certain industries only, or in all industries (Germany, Hungary, Roumania, Russia, Serb-Croat-Slovene Kingdom). The compulsory principle makes so profound a difference that it is preferable to deal with such associations apart from the more common type of the free association.

In a large number of countries (Belgium, Brazil, Chili, Czechoslovakia, Denmark, Finland, Germany, Japan, Netherlands, Poland, Roumania, Spain, Switzerland, United States, Venezuela), the right of association is guaranteed by the constitution, though not, of course, in identical terms. The value of a constitutional right, however, depends upon the way in which it is interpreted and exercised. In other countries the right of association is no less firmly established by the general spirit of the law. The present report is intended to give an account of the actual situation, and this aim can best be achieved by passing directly to the facts, beginning with an examination of the formalities imposed on industrial associations on their formation and the supervision of their activities.

Relations between Industrial Associations and Public Authorities

In one group of countries industrial associations are not required to go through any formalities in connection either with their formation or with their administration (Belgium, Denmark, Italy, Netherlands, Switzerland, United Kingdom, United States).

In a second group they are simply required to make a declaration on their formation (France : rules and names of officials;

Latvia: names of officials; Norway: rules, names of officials, minutes of the meeting at which they were elected, number of members; Spain: rules).

In other countries industrial associations must go through further formalities before they can come into being. They must obtain the approval of the authorities, which may be a more or less formal confirmation or an actual authorisation. In Esthonia the rules and the names of the officials must be submitted to the magistrates, who must see that they are in accordance with law. Detailed reasons must be given in case of refusal to register an association and appeal may be made to the Supreme Court. Local branches are registered automatically. In Hungary the rules must be approved by the Government and the institution of local branches is approved by the local authorities if they consider it to be in the public interest. In Lithuania the procedure is almost identical with that in Esthonia, except that in the case of refusal to register, the reasons must be stated to the founders of the proposed association, who are given 15 days to introduce the necessary modifications. In these three countries measures have been taken to prevent delay in the examination of applications. In Esthonia and Lithuania registration takes place automatically at the end of a month, while in Hungary the association may begin its work, although only provisionally, 70 days after the application was made.

In some countries associations are liable to further formalities or to supervision after they have been set up. In most cases they are required to report all modifications of the facts declared at the time of their constitution. In Greece, the association must also forward an annual summary of its minutes and a list of strikes which have occurred; it is liable at any time to supervision by the factory inspectors, who have to see that the law and the rules of the association have been observed, and that the accounts are properly kept. In Hungary the rules of the association must provide for supervision by the administrative authorities. In Norway the number of members must be reported each year. In Spain the registers must be produced at the request of the authorities. In Poland the reports of the executive committee to the general meeting must be forwarded to the factory inspectors every year.

Private meetings of members of the association may be held freely and without supervision in almost all countries except Hungary, where previous notice must be given of every meeting

and the representatives of the authorities must be admitted. In some countries, such as Latvia, previous notice of public meetings must be given. In others they may be held without previous notification, but a representative of the authorities must be admitted; this representative may not take part in the proceedings except if disorder occurs (Denmark, France, Germany, Netherlands).

The formalities mentioned above are compulsory on all industrial associations. In many countries, however, associations which voluntarily accept stricter regulations are given certain additional privileges. The privileges thus allowed are of an extremely varied character, of which the following are examples: legal personality or quasi-personality (Belgium, Germany, Latvia, United Kingdom, United States); legal personality, right to create benefit funds and to publish trade journals, right to represent the industry and to take part in factory inspection (Roumania); legal personality and right to distribute state unemployment benefit (Netherlands); right to institute benefit funds, to send representatives to the Central Labour Council and to report breaches of labour legislation (Greece); right to be represented in industrial arbitration courts (Australia, Canton of Geneva); right to represent the industry (Italy). Associations take advantage of the privileges thus offered in very varying degrees. Thus, for example, legal personality alone has little attraction for trade unions (e.g. in Belgium, Germany, and the United States), but the position is quite different when legal personality is accompanied by definite privileges (e.g. in the Netherlands and Roumania).

The additional formalities are intended to ensure that the association observes a certain number of fundamental conditions. In some cases the rules have to be approved by the judicial authorities (Latvia, Roumania), by a special body (Belgium, United Kingdom), or by the Government (Canton of Geneva, Netherlands). In some cases an annual audit of accounts is also necessary (Belgium, Roumania, United Kingdom).

The above are the compulsory and optional formalities connected with the formation and working of industrial associations in the various countries. The circumstances in which they may be dissolved may now be considered.

In some countries an association may in no case be dissolved or prohibited. Its members may be punished for acts which they have committed, but no penalties are allowed to affect the "right of association itself". This is the position in Belgian general

law ; in that country the law only allows the dissolution of associations with legal personality.

In some countries industrial associations may be dissolved, but only for serious and fundamental infraction of general law (e.g. in Switzerland, pursuit of an illegal or immoral aim). In other countries associations may be dissolved if they have been guilty of breaches of the general law on associations or the special law on industrial associations (France, Greece, Roumania). In certain countries associations may be dissolved if this is required by the public interest (Hungary) or public order (Netherlands).

Dissolution of associations by decision of the administrative authorities has been abolished in almost all countries, though it still exists in Hungary. Elsewhere the decision rests exclusively with the courts, although in some cases the government may provisionally suspend the association until the case has been tried (Denmark, Latvia, Lithuania). In Germany the President of the Reich may temporarily suspend the exercise of the right of association in the case of serious danger to public safety.

Membership and Internal Discipline

Any individual is naturally free to join an industrial association if the latter conforms to the law. He is free to do so in the sense that the state does not prevent him. It must, however, be asked whether the state actually protects his freedom of action. Is the individual protected against any action not in itself illegal by which other persons may try to prevent him from belonging to an association ? May the worker be placed in the position of having to choose between giving up membership of an association and losing his employment ? May the employer dismiss him or refuse to engage him if he is a member of an association or, if he is not a member, make his engagement conditional on his giving an undertaking not to join any association ? These important questions are settled in various ways by the legislation and judicial practice of the various countries.

The principle of freedom of association conflicts to some extent with the principle of freedom of contract. The rule adopted differs according as one or the other principle is regarded as more essential and more in the interests of the community.

According to one view, which is held by the liberal school, freedom of contract is inviolable. This view was adopted by the

Supreme Court of the United States when it ruled that the legislation by which certain States had attempted to guarantee the freedom of association against individual pressure was unconstitutional. In the United States it is lawful to dismiss a worker because he is a member of a trade union. A clause in the contract of employment by which the employee undertakes not to join a union is perfectly valid ; and, indeed, according to a decision of the Supreme Court (not, however unanimously adopted) action taken to induce workers who have given such an undertaking to join a trade union is illegal. Switzerland adopts the same principle, although in a less radical form. The Factory Bill of 1914 contained a clause prohibiting the dismissal of workers because they had exercised the right of association. This clause was, however, abandoned, partly for reasons of principle but mainly because it was considered that it was too difficult to apply and could too easily be evaded. Freedom of contract similarly takes priority of freedom of association in the United Kingdom, and apparently also in the Netherlands.

In other countries where the matter is not explicitly regulated by law, there is a certain amount of hesitation in judicial practice. In France, for example, there seems to be a tendency to treat the dismissal of workers and even refusal to engage them on the sole and express ground that they are members of a trade union as an abusive exercise of a right. Damages have some times been awarded in such cases. Occasionally, however, the courts have given an opposite verdict.

Some countries definitely lay down that freedom of association is one of the rights of citizenship and prohibit any action which impedes its exercise. Thus, for example, the Belgian Penal Act of 1921 prohibits any pressure of this nature, including the attempt to make the engagement of a worker dependent upon his giving an undertaking not to join a union. Similar legislation exists in Germany, Greece, Japan, Roumania, and Czechoslovakia.

Not only may an employer attempt to prevent a worker from joining an association ; the association on its side may attempt to compel workers to join it. It is therefore necessary to consider whether there are any legal obstacles in the way of such action. Pressure of the type in question may be exercised by various forms of ostracism, the most typical of which are black lists, and in the last resort strikes or the threat of strikes, in order to induce the employer to dismiss non-union men or to engage only union men.

As collective action of this kind, provided that it is not accompanied by violence, is allowed by law in almost all countries, there is conflict at this point between freedom of association in its negative form of freedom not to join a union, and freedom of combination. In this matter again different rules are adopted by the different countries.

There are divergencies of attitude even between those countries which were seen in the last section to be the most attached to the principle of freedom of contract. In the United States, for example, strikes of this type have been regarded as illegal and have been prohibited by injunction in certain States, particularly Massachusetts. In other States, such as New York, they appear to be regarded as legal, and they have been definitely declared legal in California. On the other hand, sympathetic strikes for the same purpose are regarded as illegal in all States except California. In the United Kingdom strikes declared in order to obtain the dismissal of non-union men appear to be allowed, but an undertaking to employ only union men seems to be unenforceable in civil law. In France the theory of abusive exercise of a right is applied by the courts in this case also. If a demand for the dismissal of non-union men is not to be actionable in civil law, it must be justified by industrial interests, a question of wages, or a question of conditions of labour. If this is not the case, it is regarded as proceeding from an intent to injure and is consequently illegal.

In most countries where freedom to join a union is guaranteed against pressure, freedom not to join is similarly protected. This is the case in Belgium, Greece, and Roumania. The Czechoslovak constitution gives an explicit guarantee only of the right to join a union; strikes to obtain the dismissal of certain workers are legal unless the motive is national, religious, or political. In Brazil, on the other hand, only freedom not to belong to a union is guaranteed. It may be asked whether guarantees of freedom not to join a union absolutely exclude any attempts to remove non-union workers. According to Belgian legislation, this is not the case if the attempt to eliminate such workers is based upon occupational interests, such as the desire to maintain the level of wages or to "prevent unfair competition". This is a matter which is left to the decision of the judge in each individual case.

A considerable number of countries have legislation guaranteeing the right of the individual who has become a member of an association to leave it if he so desires in spite of any clause to the con-

trary in the rules (Belgium, Brazil, France, Germany, Greece, Roumania, Switzerland).

While the individual remains a member of an association he sometimes receives a certain degree of protection, and the freedom of the association itself may to a certain extent be restricted thereby.

The first point is the question of fines and expulsions. In former times legislation forbade the unions to take any steps of this kind, and thus made it impossible for them to carry on their work owing to lack of discipline. Legislation of this kind has ceased to exist in nearly all countries. Some countries definitely lay down in principle that the members must undertake to observe the rules of the association and decisions which it has adopted in a regular way (Belgium and Switzerland). The unions are generally allowed to impose fines for failure to observe their decisions, but there are only a few countries in which such fines can be recovered by an action at law (Australia, Greece ; in the latter country the fine may not exceed three days' wages) ; in other countries, such as France, they are not recoverable. It should be noted that the disciplinary powers of the trade union are sometimes extended in cases of failure to observe collective agreements (France, Roumania ; in France the union may claim damages in such cases).

In some countries the law in no way touches on the right of expulsion. This is the case in Switzerland, unless the rules of the association contain no clause relating to the grounds of expulsion. In other countries the courts have wider powers of intervention. Where the objects to be pursued by the association are limited by law, the courts may exercise their powers of supervision over expulsions in such a way as to keep the collective action of the union within the prescribed limits. In France, for example, the expulsion of a member who refused to take part in a May-Day strike, which was deemed to be non-industrial in character, was ruled illegal. In Roumania the law makes it very difficult to expel a member of a trade union ; in principle, any person engaged in the occupation in question may enter the union and remain in it as he wishes.

In many cases legislative provisions have been adopted to ensure that the trade union is really democratic. Such provisions relate to the periodicity of meetings and the quorum. In Greece it is laid down by law that the number of votes allotted to each union in a federation must be proportional to its membership. Some provisions of this kind, however, are more particularly intended to exer-

cise a moderating influence. It is thus often laid down that the members must be specially consulted before very important decisions are taken. In Greece, for example, a strike may only be declared as the result of a secret ballot vote. In the United Kingdom trade union funds may only be used for a political object such as an electoral campaign after the members have been consulted. Each member is free to remain in the trade union without contributing to the special fund which must be instituted for political purposes.

Definition of Industrial Action

The next point for consideration is whether the state takes steps to restrict the sphere of action of the association to the occupation it covers, and if so, how it defines it.

In one group of countries this question presents no difficulties, as industrial associations are simply governed by the general law on associations. Here there is no question of legal definition of the industrial association and its sphere of action. In its composition, objects, and aims it has all the latitude allowed to any association, including political associations.

In other countries an attempt is made by legislation to define the industrial association and to allocate to it a more or less extensive sphere of action. Where this attitude is adopted, the first object is to lay down the precise meaning of the word "occupation" in this connection (the phrase adopted is almost always "similar or allied occupations", the first term corresponding to organisations by craft and the second to organisations by industry), and the second to prevent persons not engaged in the occupation in question from belonging to the association. This is particularly important in the case of workers who cease to be engaged in their ordinary work owing to labour disputes. In some countries the law makes no exception in favour of such persons; once they have left their occupation they cease *ipso facto* to be members of their union (Greece, Serb-Croat-Slovene Kingdom). More frequently, however, they retain their membership provided that they have previously been engaged in their occupation for a given period (Brazil, five years; France, one year). In Brazil, however, such persons must have left the occupation not more than ten years before, and must not have engaged in any other; the provision thus applies almost exclusively to superannuated workers. In Belgium recognised unions — others are subject to no restriction — may not

include persons not belonging to the occupation to the extent of more than one quarter of the membership. A similar proportion is allowed in the case of union officials, but keepers of public houses may not be officials of the unions.

The conception of the proper scope of industrial action which is adopted by the legislation of each country is further illustrated by its attitude towards federations of trade unions. Such federations of course are intended to serve not the special interests of a group but the more general interests of the workers as a whole. Legislation in recent years has shown a tendency to treat federations in the same way as trade unions. The rights and obligations of trade unions and of federations are expressly declared to be the same in Brazil, France, Greece, Italy, Latvia, Lithuania, Poland, Roumania. In Belgium, on the other hand, federations including occupations which are not allied cannot acquire legal personality.

In certain countries the aims of the associations must be exclusively industrial in character on pain of dissolution (Brazil, France, Hungary, Poland, Roumania, Serb-Croat-Slovene Kingdom). Industrial aims are generally understood to include the institution of mutual benefit organisations, trade schools and journals, etc. It has already been pointed out, however, that some activities of this kind are in certain countries expressly reserved for recognised associations. The United Kingdom occupies an intermediate position. As has already been pointed out, the trade union may carry on political activities; it is allowed to benefit by the trade union Acts provided that its objects are mainly industrial. It may not, however, incur expenditure for political purposes unless its members decide to set up a special fund for the purpose; each member is free to refuse to contribute to a fund of this kind. Failure to observe this rule is a purely civil and not a criminal offence.

The position of industrial associations as regards the right of combination is generally regulated by the law on combination together with the civil and criminal law on associations. These questions cannot be dealt with in the present brief report. In some countries, however, there are regulations specially restricting the action of associations in industrial disputes. In Hungary the trade unions are not allowed to give strike pay. In Belgium legal personality may only be acquired by those employers' and workers' organisations which bind themselves by their rules to attempt to settle disputes by negotiations with the other party.

In Brazil the right to represent the industry is dependent upon a similar condition.

In some countries, but not in all, government officials are subject to special regulations on the right of association. In one group of countries they are subject to the general law in this respect, either because this is laid down in the constitution explicitly (Germany) or implicitly (Czechoslovakia) or in accordance with established custom and the spirit of the law (Italy, Latvia, Switzerland, United Kingdom).

In other countries the state does not forbid officials to form associations but refuses them the right to set up genuine trade unions. The prohibition does not, however, apply to persons employed in the industrial services of the state, such as railways, etc. This is the case in Roumania, and also in France until such time as special legislation is adopted. In practice the distinction between " trade union " and " ordinary association " in the latter country depends upon whether permission to affiliate to the central trade union organisations is given or withheld.

Similar anxiety to prevent any connection between the action taken by government officials to defend their interests and that taken by other workers is clearly shown in the Greek Act which authorises officials to form associations but forbids the affiliation of such associations to a general federation on pain of dissolution.

A final point to be considered is the right of association of foreigners. In some countries foreigners, or at any rate resident foreigners, are on exactly the same footing as nationals as regards membership of trade unions (Belgium, Esthonia, Latvia, Netherlands, most of the Swiss Cantons, United Kingdom, United States). In other countries they may be members but not officials of the association (Brazil, France, Roumania). In Hungary foreigners were not allowed to be members of a trade union until the beginning of 1923 ; now they may join the benefit and provident institutions of the trade unions (provided that similar privileges are granted to Hungarians in their country of origin).

Compulsory Industrial Associations

It is necessary to give some account of the compulsory industrial associations which exist in certain countries. The principle of compulsion, whether it is a survival of the guild idea or arises from

a communist view of the state, profoundly affects the character of the association.

In the Central European and Balkan countries legislation which was in force before the war and has not been definitely repealed instituted a modernised form of guild in small craft industries. The guilds included both workers and masters, but the influence of the latter was preponderant. These organisations seem to have led a somewhat precarious existence (Austria, Germany, Hungary, Roumania, Serbia).

In Soviet Russia membership of a trade union was at first made compulsory. The workers, however, regarded such unions as state organisations which were not concerned with the defence of their interests. Their weakness was accentuated by the new economic policy. At the end of 1922 it was decided to return to the principle of voluntary membership of trade unions which were principally intended for the defence of the economic interests of their members as against the employer or the state.

The foregoing pages are an attempt to give a rapid all-round survey of the problem. The material on which it is based is a still incomplete study of legislation and judicial practice in twenty-five countries; the completion of this study will no doubt bring further details to light, and may even make it possible to arrive at a definite conclusion, without in any way passing from the plane of a study to that of a formal enquiry. On comparison of the different regulations applying to industrial associations, each system being duly considered in relation to the stage of development of the industrial community in which it applies, there emerges a mean. This mean defines in certain main respects what at present freedom of association really is, if not by universal agreement, at least according to the experience of the great industrial countries and the tradition which has already grown up in them. Existing laws and customs will then group themselves on one side or the other of this *de facto* norm, which manifestly gives shape to the idea expressed by the authors of the Peace Treaty in the phrase "freedom of association", and will form the best commentary on this idea.

Hours of Work and Output

by

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While the 8-hour day has frequently been discussed from many points of view, the special subject of this article is the strictly economic aspect of the question. The author surveys the existing data on the relation between hours of work and output and finds few of them scientifically satisfactory. Analysing the various factors determining hourly output, he shows the extreme complexity of the problem and the danger of attributing changes in output solely to changes in hours. From an exclusively economic point of view the problem is to determine not the maximum but the optimum hours of work, which are shown to vary with industry, occupation, race, and individual capacities. To determine this optimum further scientific research will be required, but in any case it would seem from the data at present available that the solution of the problem of increasing output is to be found rather in increased intensity of work than in a change in working hours.

THE general reduction of the working day to 8 hours soon after the war was to some extent a measure of immediate industrial policy intended to ' spread ' work so as to employ the largest possible number of workers in a period of relatively low production; but it was mainly the fulfilment of an old demand of the workers based on social and ethical considerations ; they had claimed that the twenty-four hours should be divided into 8 hours' work, 8 hours' recreation, and 8 hours' rest and sleep. Another argument in favour of the 8-hour day is based on the facts of industrial psychology and physiology. It is maintained that too great prolongation of the working day leads to excessive fatigue, and from this arises the demand for limitation of the working day

on grounds of health[1]. Various means of preventing excessive fatigue have been suggested, notably shortening the working day or working week, and the interpolation of scientifically planned rest periods.

These, however, are not the arguments most frequently advanced in discussions on hours of work at present. At a time when increased production is the vital question many people are inclined to dismiss as inopportune the workers' claim for leisure and even arguments based on fatigue, in so far as it leads only to increased accident, sickness, and mortality rates. They maintain that the demand for a limitation of the working day, whether on social or hygienic grounds, must yield to the demands of the economic situation. It is unnecessary to discuss here how far this opinion is justified, but the economic argument is universally recognised: if excessive fatigue has the effect of diminishing output, it must be prevented. Even if all social and ethical considerations or those prompted by interest in the worker are ignored, the question is to find, not the maximum of which the worker is capable, but the optimum, i.e. the amount of work which produces the largest output with the least possible use of machinery, power, etc. It is obviously uneconomical to run machinery at full capacity when labour is working only at half or quarter capacity.

For about a hundred years it has been recognised that in order to enable the worker to work always more or less at full capacity some limitation of his hours of labour is necessary or at any rate desirable. But no one has yet been able to claim that he has found the optimum — the " normal working day " — still less the many optima for different kinds of work. For the present one can only conjecture that, for example, the optimum for mining is lower than that for the textile industry. The determination of optimum hours of work is an urgent and fruitful task for industrial science. All that has hitherto been done is a mere tentative beginning.

There are two methods of experimenting in this matter. They both involve a reduction in the hours of the individual worker, but differ according as the working hours of the undertaking are or are not reduced. By introducing a system of shifts it is even possible to increase the hours of work of the undertaking while reducing those of the individual worker. For example, the change

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[1] (8), p. 3. The numbers quoted within brackets in the text or footnotes refer to the list of sources at the end of the article.

from a working day with one shift of 10 hours to one of 16 hours with two 8-hour shifts can be effected in most cases without reducing the profits of the undertaking. Further, the change from two shifts of 12 hours to three of 8 hours, which does not increase the hours of the undertaking (24 in both cases), generally has a favourable effect on profits. In the United States especially there is a great campaign in favour of replacing the two-shift by the three-shift system in continuous-process industries, e.g. chemicals and iron and steel (28). The results of shortening the workers' hours have frequently been favourable, or at any rate not unfavourable, to production, even when the hours of the undertaking itself have been, not increased or kept the same, but decreased, e.g. from 10 to 8 hours, at the same time as those of the individual worker.

The effect of a reduction in hours on output may be estimated in two ways: by the difference either in output in a calendar period (daily, weekly, or yearly output) or in hourly output before and after the change in hours. A reduction in hours may be profitable, even though output in a calendar period remains the same or decreases, provided that output per unit of work (hourly output) increases. Many of the costs of production (e.g. power, wear and tear, heating, lighting, wages) depend on hours of work, and not on the calendar period, which only determines salaries of officials and non-manual workers, rent of buildings and machinery, etc. Daily, weekly, or yearly output will remain the same with a reduction in hours of work only if hourly output increases in the same proportion as hours are reduced; the reduction in hours is then compensated by increased hourly output. The increase in hourly output may be even more than proportional to the reduction in hours, in which case the reduction of hours is more than compensated, and daily, weekly, or yearly output does not fall but actually increases.

The relation between hours of work and hourly output is by no means simple or direct, that is to say, a change in hourly output occurring simultaneously with a change in hours of work is not necessarily (*post hoc ergo propter hoc*) an effect of the latter change. An increase in hourly output may not be due solely to a reduction in hours, nor need an absence of change or decrease in hourly output be taken as proving that the reduction of hours has not had the expected effects. Statistical data show unmistakably that the causal connection must be a different or at any rate a more complex one.

Some statistics show such an enormous increase in hourly

output following a reduction in hours that one is driven either to mistrust the figures altogether or to believe that the statement of the causes bringing about the increase in output is incomplete. In an aluminium factory at Plettenberg, Westphalia, the reduction from 10 to 8 of daily hours of work of tinsmiths employed on rivetting pans was followed by an increase of 121 per cent. in daily output and 176 per cent. in hourly output (49).

Similarly, if a reduction of hours is accompanied by a marked decrease in hourly output, other contributory causes should be looked for. The factory inspector for the Dusseldorf district [1] reports that the reduction of hours in a machine tool factory from 10 in 1913-1914 to 8 in 1919 was accompanied by a fall of 70 per cent. in yearly output and 62 per cent. in hourly output.

As these two examples appear to show that the same cause has produced diametrically opposite effects, the logical conclusion must be that other factors of greater influence than the reduction of hours were at work in both cases.

The Data Available

The existing data on the relation between hours of work and the volume of production are so manifold and to some extent so contradictory that by suitable selection it would be equally possible to prove the economic possibility, if not desirability, of reducing hours of work or to prove the contrary. Literature representing both conclusions has been published. The Institute of Applied Psychology has collected all the existing material on this question, in order to facilitate for the first time an entirely impartial discussion of the question [2]. I cannot undertake to present here any summary of the collection, as any such selection would be one-sided. I have therefore limited myself to citing a few examples and propose in addition to give a few — naturally personal — impressions based on perusal of the material as a whole.

A comparatively small proportion only of the data collected and compiled by the Institute is scientifically satisfactory. Each

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[1] (18), p. 606.

[2] Otto Lipmann : *Das Arbeitsproblem.* Berlin, Institut für angewandte Psychologie (Schutzenstrasse 26, S W 68). 1924. 6 gold marks. This book of about 200 pages presents theoretical investigations, especially on the computation of optimum hours of work ; about 700 separate data on the effects of changes in hours of work on output, mainly presented in tabular form; other data on the social and hygienic effects of changes in hours ; and a bibliography of about 400 works.

piece of information has to be separately considered and its value determined according to its source, the method of calculation used, etc. The material has been prepared in very different ways.

The most useful are monographs on changes in hours of work effected in a single factory. These give precise information on other factors which may have affected output in the same or opposite sense as the change in hours (e.g. Abbe (1), Bernays (2), Freese (10), Fromont (11), Goldmark and Hopkins (46), Loveday and Munro (22), Mather (34), Vernon (21)).

Some use can be made of information merely based on factory statistics if it is clear that the figures used are the result of precise observation and not of mere estimates. The value of this material is naturally increased if it is expressly stated that such and such a condition was also of determining importance or that any given condition (e.g. a change in factory organisation) was certainly not operative.

Estimates and personal impressions are of little value, but they can be used, though with reserve, if it is at least possible to see who made the estimate, e.g. whether it was made from the employer's or the worker's point of view.

It is practically impossible to use data based on estimates or personal impressions when it is not stated whose impression or estimate they embody.

Unfortunately the greater part of the material available is not based on careful factory statistics but merely on rough estimates. There is no denying that these estimates are more or less coloured by the person making them, though this of course does not imply that they are consciously coloured. An employer who cannot base his estimate on precise figures for his undertaking is naturally inclined to regard any reduction in hours as the first step in the ruin of his undertaking. To him the most important part of the factory is the machinery, which fails to fulfil its purpose every minute that it is standing idle. It is too often overlooked that full utilisation of machine power is not the only factor, that the maintenance of the working capacity of the " living equipment of the factory " is an economic necessity to the community and an important factor in the profits of the undertaking. In the frame of mind in which estimates of the effects of changes in hours of work are published, these considerations are not given their full weight, just as it is overlooked that the fact that machinery is running does not necessarily guarantee that its power will be fully utilised by the workers employed on it. The calculation that more work

will be done in 9 hours than in 8 is so convincing that its suggestive power can hardly be resisted, and there is a tendency to think that it is unnecessary to produce any proof of its accuracy. Similarly, if estimates of the effects of reduction of hours of work are made from the worker's point of view, they frequently present a much too favourable impression.

Lee (29) cites " as an instance of a method that is inexact and therefore not to be recommended " " the studies that are now being made on the results of reducing working hours in several industries by the National Industrial Conference Board, an association of American manufacturers. Instead of making exact measurements of output before and after the reduction in time, the Board bases its conclusions on the opinions of employers, opinions that were obtained by the inexact method of the questionnaire with all its pitfalls. " Even the great mass of material contained in the annual reports of the German factory inspectors and mining authorities (15-19) is based mainly, not on factory statistics, but on estimates which for the most part are made by employers.

I may perhaps endeavour to state in a few sentences my general impression of the material before me.

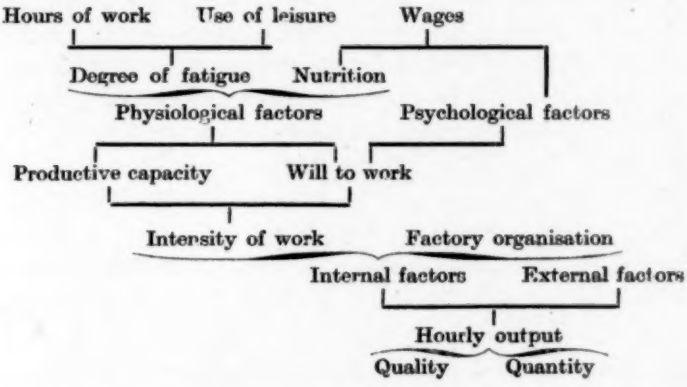
(1) The more exact the observations on which a report is based the more frequently do they represent the effects of a reduction in hours as good, or explain the absence of good effects by other causes. On the other hand information based on estimates very frequently reports bad effects of reductions in hours of work.

(2) The results of older (pre-war) attempts at reductions in hours are mostly favourable, while those of more recent attempts (especially those in the post-war period) are often unfavourable. There may be two causes for this. It may be that all the material based on the post-war period is useless for scientific investigation into the effects of hours on output because many other causes (often mentioned but also frequently not explicitly stated) have affected output to a much greater extent than hours of work. At the same time the question of hours of work has never before been such a central point in the political struggle and the future of a state has never depended so absolutely on an increase in production as is the case in Germany today. This fact naturally increases the subjective character of all estimates of the effects of reductions in hours of work, and readily leads to exaggeration in the estimates. Only if these arguments are dismissed as unjustified is it possible to explain the contradiction between the older and the more recent

data by the statement that, while the earlier reductions in hours tended to approach the economic optimum hours, the last reduction to 8 hours a day has moved away from this optimum ; that reductions from 10 to 9 hours may be economically justifiable but that a reduction to 8 hours or less is unjustifiable from this point of view.

Factors in Hourly Output

The causes which lead to a change in hourly output may be presented diagrammatically thus :



The following may explain the above diagram. Hourly output depends on ' internal ' and ' external ' factors. The meaning of ' external ' factors may be explained by examples.

Denis explains the unfavourable result of reductions in working hours in Belgian mines in earlier years by the fact that the reduction in hours coincided with a rise in the price of coal. The effect of this rise in price was that the mine owners opened up the poorer seams, and output in relation to hours of work therefore fell (7). Conditions are very similar in the German mines at the present time (14). Here the bad organisation of transport in the mines is also often advanced as the cause of the fall in output. This example is instructive in that it shows that mere statistics without fuller investigation of conditions may lead to erroneous conclusions. Imbert (27) cites the fact that transport workers at Marseilles, who worked much shorter hours than those in other French ports, had a much lower output. Only after careful enquiry was it ascertained that conditions of work in Marseilles were particularly unfavourable.

'Internal' factors which determine or help to determine hourly output are the efficiency of factory organisation and the worker's intensity of work.

Among specific factory conditions affecting hourly output unfavourably are those mentioned, for example, by the factory inspector for Lower Franconia in his report for 1920 [1] as follows:

> It is impossible as yet to make any incontestable statement as to the effect of the 8-hour day on the average hourly output of the worker or on industry in general; many other unfavourable factors have been at work, such as *temporary abolition of piece work*, reduction of the worker's productive capacity through inadequate nutrition, *great depreciation of machinery* during the war, *delays in the delivery of raw materials, tools, and other supplies.*

The direct effect of a reduction in hours in increasing output may also be counteracted by bad distribution of those hours. For example, the substitution of an unbroken 8-hour day for a 10-hour day broken by a fairly long midday rest may have a bad effect on output (13). At a meeting of the Chemnitz municipal council on 12 April 1922 Mr. Burger, a textile manufacturer, stated that the reasons why the reduction of hours in his factory from $9^1/_2$ to 8 (i.e. by 13 per cent.) had not altered daily output and had increased hourly output by 15 per cent. were that the piece-work system had been maintained and that a 2-hour break in the middle of the day was still granted. On the other hand, output had fallen by 30 or 40 per cent. in many factories where the introduction of the 8-hour day was accompanied by the abolition of the midday rest and of piece work [2].

The figures of output with different hours of work are not comparable if the composition of the working force has been altered — for example, if a larger number of disabled men are employed with the shorter hours — or if the proportion of productive to auxiliary workers has changed. Hertz and Seidel [3] show that in coal and lignite mining the effect of reducing hours cannot be accepted as unfavourable if output is calculated in relation to the total working force rather than in relation to the number of workers actually employed in mining, i.e. the hewers. In 1922 the German lignite mines employed far more clearing pitmen than before the war, as there was a great deal of clearing work to be done which

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[1] (19), pp. 164-165. The italics are my own.

[2] (25), p. 77.

[3] (25), pp. 55-62.

had been neglected during the war. Similarly, in the coal mines the proportion of hewers to the total working force was 52 per cent. in 1913, 39 per cent. in 1920, and 42 per cent. in 1922.

It is reported that in the French state factories the introduction of the 8-hour day in 1907 was followed by a decrease in output, " yet it is impossible to draw any definite conclusion from this fact, as simultaneously time work was very largely substituted for piece work " (9*a*).

The reverse of the foregoing is also true. Apparently favourable results of a reduction in hours must often be attributed partly to changes in factory organisation. The effects of the introduction of the 48-hour week in the British Admiralty dockyards and at Woolwich Arsenal were good, but it is impossible to say how far these good effects are to be attributed to improvements in the machinery and methods of work (20). In the Hadfield steel foundry at Sheffield hours of work were reduced in 1890 and 1891 from 54 to 51 per week (i.e. by 6 per cent.). Weekly output then rose by 1 per cent. and hourly output per worker by 7 per cent., but this result was attributed in the first place to improved machinery, and in the second to increased intelligence and interest on the part of the workers (41).

The worker's intensity of work depends on his productive capacity and his will to work, which in turn is affected by both psychological and physiological factors.

The effect of the will to work, or the lack of it, may be illustrated from a report by Watts (47). He quotes a statement by the President of the British Board of Trade to the effect that a reduction of hours in coal mining had a bad effect on output ; when hours were reduced from 8 to 7 per day (i.e. by 12.5 per cent.) the yearly output per worker fell from 259 tons to 203 tons (i.e. by 22 per cent.) — and hourly output therefore by 9 per cent. To account for this he refers to the conclusions drawn by Miss Proud (40) : " The distrust which usually haunts the minds of any workers when their customs are broken expresses itself unconsciously in their movements. If a reduction of hours from 8 to 6 were made without any stated reason, they would probably think that there was a shortage in the demand, and they would perhaps be slow in order to prevent further reductions."

In the period immediately following the war the will to work must have been very injuriously affected by the fact that, as was pointed out at the beginning of this article, a reduction in hours

was originally based on the need for ' spreading ' work, and that the workers themselves adopted this argument. They accepted the 8-hour day as a free gift, without realising the necessity of making some return for it by increased intensity of work. As a matter of fact, during the period of demobilisation this return was unnecessary ; it is only now, when competition in industry has become acute, that the workers must be reminded that with shorter hours increased intensity of work is necessary, and the employers that a reduction in hours does not necessarily mean a decrease in production and that output will not necessarily be increased by increasing hours of work.

The statement that frequently — in normal circumstances almost invariably — a reduction in hours has a good effect and an increase in hours a bad effect on the workers' will to work is often supported, among other arguments, by a comparison of labour turnover in factories with different hours of work, or in the same factory before and after a change in hours. Stoughton (43) reports that " every executive with whom I have talked declares in emphatic terms that the labour turnover is much less on the three-shift system than it is on the two-shift system ".

Abbe (1) contests the assertion that intensity of work is dependent on the worker's will to work, and produces examples to show that the desire to increase intensity of work leads to uneconomical over-exertion. In my opinion, however, Mr. Abbe's conception of the will to work differs from my own. If the will to work generally exists, he is right ; the intensity of work will be increased automatically, i.e. without any special increase of the will to work, if hours are reduced. On the other hand, if there is no general will to work, or very little — and this was the rule at the end of the war — a reduction in hours will lead to a reduction in output unless there is an increase in the will to work simultaneously with the reduction in hours.

Among psychological factors affecting the will to work, in addition to those already mentioned, there is the extent to which the attention of the worker is distracted by political questions in the narrower (works council elections, etc.) or wider sense.

The will to work is, however, also influenced by the so-called physiological factors which determine productive capacity. These physiological factors include the degree of fatigue and the state of nutrition of the worker.

To dispose first of all of a special question, it may be mentioned

that according to Weber (48) the effect of a daily consumption of 30 grammes of alcohol is that 9 hours are required for work which previously was done in 8. If this conclusion is accepted, many comparisons between the pre-war and post-war periods apparently favourable to reduction of hours may be explained by the reduction which has taken place in the consumption of alcohol.

The effects of a change in nutrition, quite apart from reductions of hours of work, on intensity of work, and thus on hourly output, are illustrated by Schuler [1]:

> In many undertakings (in Switzerland), after the introduction of an 11-hour instead of a 12-hour day, the previous level of production was only slowly regained after many attempts. The process was hastened by a rise in wages, which meant better nourishment for the workers and raised the general level of economic conditions among the workers.

On the other hand, the factory inspector for the local government district of Liegnitz reports for the year 1919 [2]:

> The expectation that output per unit of time would increase as a result of the reduction in hours of work has not been fulfilled. On the contrary, complaints of reduction in output were fairly frequent. The reasons advanced for it were shortage of material and delays in supply,... defective nutrition and a consequent increase in cultivation of gardens and allotments, the uncertainty and excitement of political conditions, the tendency to ' spread ' work when there was a fear of shortage of orders, and the rise in wages, which even on piece work rendered it unnecessary to occupy working hours as fully as before.

The degree of fatigue — the second physiological factor — depends not only on the hours of paid employment, but also on the nature and duration of the worker's occupations in his leisure time. If a reduction in hours of work is to prevent excessive fatigue, the worker's leisure must not be so unsuitably employed as to involve as much or more fatigue than the paid work which he thus escapes. If the worker uses his leisure for other fatiguing paid employment or for strenuous recreation, it is little wonder that a reduction in hours of work does not have the effect of preventing excessive fatigue and of increasing output.

Effects of Changes in Hours

Statistics which compare hours of work and the volume of production should always be used with caution unless it is

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[1] (9), p. 11.

[2] (18), p. 250.

explicitly stated that all other conditions have remained the same. In nearly all statistics which compare conditions before and after the war, it is impossible to assume that there has been no change except in hours of work, even if the change in other conditions is not expressly indicated. As, moreover, these other conditions have in almost every case altered for the worse, a decrease in output following on the introduction of the 8-hour day in the post-war period does not prove that reductions in hours have a bad effect on production, while increases in output *a fortiori* point to the favourable effect of reductions in hours.

The 8-hour day introduced in Germany after the Revolution has on the whole produced few good effects as yet, least of all in 1919 and 1920, because (1) simultaneously with the reduction in hours a change for the worse in the system of wage payment took place; (2) the workers were possibly suffering from the after-effects of the war, their food supply was bad in comparison with the pre-war period, and many of their number were disabled through war service; (3) the political unrest during the first years after the Revolution distracted the attention of the worker from his work and absorbed his energies in other directions; (4) during the period of demobilisation 'spreading' work was general, and the fluctuations in economic conditions made it impossible to achieve regularity of work; (5) the good effects of a reduction in hours of work do not generally show themselves immediately after the change, while in any case the most important effects only appear after a certain period has elapsed. The workers must gradually become accustomed to the greater speed of work which is made possible by the reduction of fatigue.

In a chemical factory in England employing 1,000 workers hours of work were reduced in 1890 from 84 to 56 per week (i.e. by 33 per cent.). Comparing output in 1890 with that in 1889 there was a reduction of 3 per cent. in hourly output, involving one of 35 per cent. in yearly output; but if output in 1893 is compared with that in 1889 it appears that hourly output increased by 11 per cent. and that the decrease in yearly output was only 26 per cent. (5).

According to reports on a British munitions factory it took about four months for women workers employed on turning aluminium fuse bodies to adapt themselves to the reduction of hours from about 66 to 54 per week. Young workers employed on boring shell top caps took from 15 to 20 weeks to adapt themselves to the change from $70\frac{1}{2}$ to 54 hours per week[1].

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[1] (21) and (24), pp. 35-37.

The opposite effect has also been observed, though rarely, i.e. that immediately after the reduction in hours hourly output increases, but later decreases again. A report on the manufacture of uniforms and men's clothing in Sommerfeld [1] states that a temporary reduction in hours of work had no appreciable effect in reducing output in the first few weeks, but this appeared later, as the weavers were unable to work at such high pressure for any length of time. The experience of this factory also goes to show, however, that overtime only increases output temporarily and that the workers are not inclined to work overtime for long. In the first case there was so strong a will to work immediately after the reduction in hours that the workers' productive capacity could not keep up with it in the long run. The reverse also holds; the worker's will to work — and possibly also his productive capacity — diminishes if he is required to work overtime.

According to von Buch (6) the full effect of reductions in hours can only be seen in the next generation; overtired workers produce offspring with a reduced capacity for work. Only untired offspring of parents who have not been overtired can produce the maximum of work. On the other hand, however, if hours were increased, increased fatigue would probably show itself very rapidly in a slackening of speed and thus in relatively lower output; the example from Sommerfield cited above indicates this. In fact, the various published reports on the effects of increases in hours of work show that they produce a purely temporary increase in output, if any.

The degrees of intensity of work are directly expressed by rapidity of movement, degree of accuracy, frequency and duration of interruptions of work, the degree of attention which the worker gives to his work, etc. All of these in their own way tend to increase or decrease output. For example, if the worker's attention is heightened, the running period of the machinery can be increased, or a single worker can serve a larger number of machines, or fewer goods are spoilt. These signs of a change in the intensity of work may all appear simultaneously or one may improve at the expense of the others; increased intensity of work may mean an improvement both in quantity and quality of work, or an improvement in speed at the expense of quality; or again increased intensity

[1] (12), p. 215.

of work may only have the effect of improving the quality of the work.

Examples of the various forms of change in intensity of work are numerous, and certain of them may be cited here.

The factory inspector for the Danube and Black Forest districts reported that in the year 1891, with shorter hours of work, especially on piece work, more rather than fewer goods were turned out than with the previous longer hours (15). On the other hand the factory inspector for Upper Franconia reports in 1920 [1] that in the granite, cigar, and china industries " certain factories have a larger output with an 8-hour day than with a 9 or 10-hour day, but in many of them the quality of the work has fallen off ".

In a Swiss tannery, when hours of work were reduced in 1881 from 11 to 10 per day, the workers earned no less than before and the quality of the goods improved (44).

The factory inspector for the first Württemberg district reported for the year 1911 that " an employer who introduced the $8^1/_2$-hour day some time ago, and is a keen observer, states that he remarked that with longer hours his workers' output suffered both in quantity and quality, and that the highest output of an average worker was achieved with an 8-hour day " (17).

In the British cotton spinning and weaving mills weekly hours of work from 1844 to 1846 were 69, from 1859 to 1861 60, and from 1880 to 1881 $56^1/_2$; that is to say, the reduction in hours of work was first 13 per cent. and later 6 per cent. The output of a weaver in these three periods is given as 1,658 lb., 3,206 lb., and 4,039 lb. respectively, i.e. it increased by 93 and 26 per cent., while hourly output increased by 122 and 34 per cent. In the spinning mills the corresponding figures were 2,754, 3,671, and 5,520 lb., which indicate an increase in output of 33 and 50 per cent. in the calendar period, and an increase in hourly output of 53 and 61 per cent. This increase in output is stated to be partly a direct consequence of increased intensity of work, and partly an indirect result, in that the increased intensity of work led to the use of more elaborate and more rapid machinery (4).

In the Zeiss optical works at Jena, in the year 1899-1900, with a 9-hour day, the hourly consumption of electric current was 61.5 kilowatts, of which 29 kilowatts, or 41 per cent., was used for productive work. In the year 1900-1901, with an 8-hour day, the hourly consumption was 65 kilowats, of which 32.5 kilowatts

[1] (19), p. 108.

(50 per cent.) was used for productive work. The increased use of current, and more especially the increase in its productive use from 41 to 50 per cent., is a standard by which to measure the increased intensity of work (1).

Thus by more complete use of machinery and decrease of waste running time an actual increase in hourly output can be achieved through increased intensity of work where the speed of work depends entirely upon the speed of the machinery.

In a British munitions factory the increased intensity of work in boring shell caps — a highly automatic process — achieved by reducing hours from $70^1/_2$ to 55 per week (i.e. by 22 per cent.) was only shown in more continuous feeding of the machines. After a few weeks it was possible to increase hourly output by 22 per cent. and to limit the reduction in output in the calendar period to 5 per cent. [1]

Martin gives similar information for the weaving mills in the Krimmitschau buckskin-cloth factory. Since the reduction of hours in 1881 from 12 to 10 per day, the output of the same looms has not decreased, owing to the reduction in the periods for which the looms stood idle (33).

In the Salford Iron Works of Mather and Platt, employing 1,200 workers, hours of work were reduced in 1893 from $53^1/_2$ to 48 hours per week, i.e. by 10 per cent. The hourly output of piece workers as compared with the average for the years 1886-1892 increased by 8 per cent. in the first four months (involving a reduction of 1.76 per cent. in weekly output) and from the beginning of 1894 increased by 11 per cent., so that the reduction in weekly output as compared with 1886-1892 was only 0.78 per cent. In explanation of this it is stated that owing to increased punctuality the amount of lost time fell from 2.46 to 0.46 per cent. The good results of shorter hours were confirmed in 1904 by the proprietors, who stated that they were absolutely convinced that the 8-hour day was more profitable than the 9-hour day (34, 37).

Plener reports on the effects of the reduction of hours introduced in England in 1851 as follows (38):

> It soon appeared that a mere extension of the hours of work does not necessarily imply an increase in the worker's productive capacity. The workers, especially those who were no longer fatigued by excessive physical exertion, produced as much and frequently more in the shorter time, a feat to which they were encouraged by the almost universal system of piece wages. Gradually even the employers admitted that

[1] (24), pp. 35-37, and (21).

in the last two hours, previously considered indispensable, the work done was much worse than in the preceding hours, and that the unbroken regular work of the new working day, thanks to the application and industry of the workers, who no longer idled during the earlier hours of the day, was more profitable for an undertaking than the previous long working day with alternating periods of work and slackness.

It has already been pointed out that shorter working hours may be profitable for the employer even if increased hourly output does not fully compensate for the reduction in daily, weekly, or yearly output; some items of general costs of production may be reduced owing to the reduction of hours of work.

In the leather works of Doerr and Reinhardt in Worms, employing 800 workers, the reduction of hours from $9^1/_2$ to $8^3/_4$ a day led to fuller utilisation of power and of working hours, according to the report of the factory inspector. "Owing to punctuality in beginning and finishing work output and earnings on piece work remain the same as before" (16). The Freese shutter factory in Berlin gradually reduced its working day between 1887 and 1892 from 16 to 8 hours. Hourly output increased both on piece work and on time work so considerably that output in the calendar year was not diminished. Certain losses were also avoided through economies in the use of the steam machinery and in heating and lighting (10, 39).

Varying Economic Standards of Hours

There is no general or uniform solution for the problem of the relation between hours of work and output. First of all a distinction must be drawn between factories with continuous work and those with intermittent work. It may be possible to convert a factory with relatively long hours of intermittent work into one with continuous work. The problem is then not that of the hours of the undertakings but that of the hours of the workers alternating in shifts, i.e. the problem of the best length of shift. Again, if several workers are needed to serve a single machine, it is possible, without reducing the working hours of the undertaking or of the machinery, to institute a rotation of the workers employed on one machine in such a way that there shall always be, for example, one-third of the working force resting for 20 minutes every hour (or one-eighth of the working force resting for 15 minutes every

two hours, etc.) [1]. Even where such rotation is impossible, it will often be desirable to interrupt the working hours of the whole undertaking by more or less frequent breaks. This leads up to the whole question of general factory organisation. Scientific distribution of working hours and breaks may increase output very considerably without increasing hours of work or the workers' period of duty, and other measures of organisation affecting the factory as a whole or the separate machines, tools, etc. may have a similar effect.

The solution of the problem of the relation between hours of work and output varies according as the work actually involves continuous activity on the part of the worker or a period of duty more or less frequently interrupted. There are certainly factories in which a reduction of hours must necessarily cause a reduction of output and where similarly an increase in hours may be expected to produce a proportional increase in output. These are undertakings and types of work in which the worker has merely to watch automatic machinery — work requiring neither physical nor mental exertion.

One may expect to find a relation between reduction of hours and increased output through greater intensity of work — or between an increase in hours and reduction of output through decreased intensity of work — as a rule only where output depends on the intensity of work of the workers rather than of the machinery, most of all therefore where the work requires physical and mental activity (e. g. attention) from the worker. It is reported that in the Swiss engineering industry, following a reduction of hours of work from 11 to 10 per day (i.e. by 9 per cent.), the hourly output of hand workers rose by 10 per cent. and that of machine workers by 5 per cent. Thus the daily output of hand workers remained the same while that of machine workers fell by 5 per cent. (45).

Even the apparently simple question whether an industry is one in which the volume of production depends on the working hours of the machines or on the intensity of the work of the workers is much more complicated that it appears. The textile industry is a case in point. It might appear that here output depends entirely on the running time of the machinery and cannot be modified by the workers; nevertheless reductions in hours have led to increased production, or at any rate to increased hourly

[1] Cf. for example (22).

output. Even in this industry the intensity of work of the worker may be increased. It shows itself in a reduction of unproductive idle time for machinery, in the ability of the worker to take charge of a larger number of machines, in increased speed of machinery without an increase in idle time, and in increased punctuality of the workers in beginning and finishing work and rest periods.

Bourguin [1] states that in the power weaving mills in Lille, Armentières, Roubaix, and Tourcoing employers and workers agreed that the reduction of hours from 12 to 10 per day had no appreciable effect on total production, since weaving depends more on human labour than on machine work — much more so than spinning. The reduction in hours encouraged the weavers, who were paid on piece rates, to increase the intensity of their work (and also, it is said, decreased the consumption of alcohol in Armentières).

The optimum hours of work vary not only with different industries but also for different undertakings in the same industry, according to the organisation of each undertaking and the arrangements for the worker's welfare. In proportion as, before a change in hours of work, an undertaking was highly organised and its productive capacity comparatively independent of the worker's output, an increase in hourly output through even better organisation is less to be expected after the change. On the other hand, the better organised undertakings generally make greater calls on their workers, and for this reason their optimum hours of work are frequently less than in factories working more casually.

Such differences naturally make legal regulation of hours of work more difficult. If the optimum (shorter) hours of work of the more highly organised undertakings are adopted as the standard, the existence of small undertakings organised with longer hours may be imperilled. At the same time the larger undertakings could hardly be asked to change the hours of work which for them are the optimum in order to suit those of the smaller ones. In the American shoe industry the reduction of weekly hours of work from 60 to 54 and 48 was most successful in small undertakings with less than 100 workers and in very large ones with more than 1.000 workers (35).

The optimum hours of work differ further for the different

[1] (9), pp. 481-483.

types of work within a single undertaking. The British Health of Munition Workers Committee, on the basis of its earlier enquiries, quoted the following as optimum weekly hours of work (30, 23).

Type of Labour	Men	Women	Young Persons
Very heavy	56	—	—
Heavy	60	—	—
Moderately heavy	—	56	—
Light	70	60	70
Very light	—	64	—

These figures, however, only apply to highly efficient workers, as less efficient ones would not be equal to the speed of work required for these hours. The figures seem very high, but it appears that the Committee's later investigations, in so far as I have been able to obtain full reports of them, indicate lower optima.

Optimum hours of work vary not only for the different types of work but for the different workers. They depend on the general constitution and the present condition of the worker. One man will be more fatigued by intensive work of short duration, another by lighter work of long duration, while subjectively different men will prefer different types and hours of work (13). Fromont [1] refers to differences in race, temperament, and constitution among the workers and compares them with the difference between the "flier" and "stayer" among racing cyclists. A reduction in the hours spent on intensive work which has to be carried on over a long period will have a beneficial effect if the worker is of an active, nervous, "go-ahead" stock, but not if he belongs to a robust, phlegmatic, and slow-moving stock.

Liesse (32) in this connection quotes a statement of Schulze-Gaevernitz that in 1880-1882 the number of workers required for 1,000 spindles was 25 in Bombay, 13 in Italy, 7 in Germany, 9 in the Vosges, and 3 or 4 in Lancashire. Diehl [2] produces data to show that the intensity of work in different countries varies so much that the international adoption of a "normal working day" would be ridiculous. Certainly constitutional differences of race, climatic influences, etc. vary so much with the inhabitants of different lands that the general introduction of a uniform maximum working day can only be justified on general social and ethical grounds and not on those of production or health.

[1] (11), p. 118.

[2] (8), pp. 38 *et seq.*

Yet, within a single country, or even a single factory, individual differences are great enough.

According to Abbe's observations (1) in the Zeiss optical works at Jena, the percentage increase in output of women workers of varying ages as a result of the reduction of hours from 9 to 8 per day was as follows :

Age	Hourly output	Daily output
22 up to 25	17.9	4.8
25 up to 30	16.7	3.8
30 up to 35	14.9	2.1
35 up to 40	15.8	3.0
Over 40	17.4	4.7

Miss Bernays (2) observed the effects of a reduction in normal hours of work from $129^1/_2$ hours in two weeks to an average of 124 in the München-Gladbach Spinning and Weaving Mills. She found the average earnings per half-hour of men and women workers and calculated the percentage changes in these earnings, following on the reduction in hours, as follows :

Age or efficiency	Men	Women
17-24	— 1	+ 2
25-40	— 1	+ 3
40-50	+ 2	+ 3
50-60	+ 1	+ 5
Poor workers	0	— 2
Average workers	0	+ 1
Good workers	+ 5	+ 3

Thus the increase in intensity of work following on the reduction in hours was greater with the older and with the more efficient workers.

Results of a different kind were obtained in a British shoe factory, as reported by Loveday and Munro (22). After the reduction in individual hours of work involved in a reorganisation of the factory the greatest increase took place in the output of the weaker and less highly skilled workers, who were more liable to fatigue.

The optimum hours of work are less for a well fed and physically fit worker than for an underfed worker who is no longer accustomed to intensive work, as, for example, one recently returned from the Front or from captivity as a prisoner of war. It must be repeated that the phrase " optimum hours of work " is used here to mean the optimum hours from the point of view of output. If the problem is considered from the point of view of industrial hygiene

other considerations are of importance. Quite apart from that, however, a factory cannot be organised for the benefit of each individual worker but merely for the majority or average of the workers. It would be difficult to put into practice a suggestion made by Brauer (3) " that hours of work should be graduated, like wages, in such a way that married workers, especially those with large families, should work shorter hours than young and vigorous workers, who would certainly have less reason to complain of having to expend their surplus energy in the right place rather than on the playing fields or in less desirable places ".

It is impossible on the basis of the material available to give any simple answer to the question whether a reduction of hours of work is more advantageous for piece workers or time workers. It is generally noted that a reduction of hours has an adverse effect on the output of the time worker, since he lacks the incentive to increase his intensity of work. It has occasionally been observed, however, that the piece worker, like efficient and industrious workers in general, is unable to increase the intensity of his work in order to counteract the effects of reducing hours because, previous to the reduction of hours, he already worked with the greatest intensity of which he was capable. Nevertheless, with shorter hours greater intensity of work is possible than what appeared to be the maximum with longer hours. As a matter of fact it appears from the available reports that piece workers make up more rapidly and completely for the reduction in hours than time workers.

In the textile industry of Sommerfeld hours of work were reduced in 1892 from 13 to 11 per day (i.e. by 15 per cent.). The effect of this in the manufacture of cloth for Eastern Asia was that the hourly output of time workers remained the same while that of piece workers increased by 6 per cent. The total reduction in output was thus 15 per cent. for time workers and 10 per cent. for piece workers [1].

From the annual reports of the German factory inspectorate and mining authorities (18) Hoffmann [2] calculated the effects of reduction of hours on different classes of workers, comparing output in 1913 with a 10-hour day with that in 1919 with an 8-hour

[1] (12), p. 213.
[2] (26), pp. 116-117.

day. The daily output of time workers (25 per cent. of the whole staff) fell by 20 per cent. and their hourly output remained the same. The daily output of piece workers (40 per cent. of the whole) fell by 10 per cent. and their hourly output rose by 12 per cent.

It is impossible, however, to go further here into the relation between the problem of hours of work and that of wages.

Scientifically satisfactory data on optimum hours of work for given industries, the production of given goods, or individual undertakings can only be obtained from factory statistics planned on a large scale and compiled with scientific accuracy, and from special industrial experiments. One method would be, as Sachsenberg (42) suggested, to divide the working force of an undertaking into groups, one of which would work 9, another 8, and a third 7 hours a day. Care must be taken that in every other respect, such as composition, conditions of work (wages, rest periods, tools, and machinery), and will to work, the groups are precisely the same. It would be possible to make use of laboratory experiments in many industries and undertakings by measuring and statistically evaluating the output of individual workers with varying previous periods of work.

Information might also be obtained from investigations into the effects of overtime. It would be necessary to ascertain not only the relation between output on overtime days and output on normal days, but also the relation of output on days following overtime days to output on days following normal working days. It is possible that output on days following overtime days may be so seriously diminished that the effects of an increase in output through overtime are entirely counteracted.

Even from the point of view of increasing production — a necessity which is universally recognised — the data available seem in my opinion to point not so much to the need of lengthening the working day beyond 8 hours as to the need of increasing hourly output within the 8-hour day. In spite of the complexity and contradictory nature of the various data, one point seems to emerge from them all : that output in a very large number of industries and undertakings depends much less on the duration than on the intensity of work.

The factors in hourly output which may be increased in intensity have already been indicated : factory organisation (rest periods, arrangement of machinery, etc., system of wage payment),

the will to work, nutrition, and degree of fatigue of the worker. It is possible that in many cases an increase in hours of work would be admissible from the point of view of fatigue and productive capacity generally, but it is doubtful whether it would necessarily be admissible from the point of view of its effect on the will to work. If hours of work were extended without previous agreement with the workers, it is probable that the effect on the will to work would be so deleterious that all theories on the optimum normal hours of work, which are naturally based on the assumption that there is a normal will to work, would completely cease to apply.

If hourly output is to be increased, the following are the methods which should be adopted.

(1) The worker should avoid excessive fatigue in his leisure time and the consequent detriment to his paid work.

(2) The worker should be well fed and receive an adequate wage for this purpose.

(3) The worker should exert greater concentration of attention and will, energy, and care than when longer hours permitted him to work more easily.

(4) A scientific system of wage payment should be instituted.

(5) With the assistance of psychological experiments in co-ordination, every man should be placed in the position where he can produce his best in the interests of himself, the undertaking, and the community.

(6) Rest periods should be interpolated during the working day, of such length and frequency as are shown to be desirable by investigations in industrial psychology.

(7) The organisation of the undertaking (machinery, etc.) should be systematised on the basis of investigations in industrial psychology and physiology.

Without the introduction of these measures an increase in working hours is unlikely to increase output. If they are introduced, however, output may increase noticeably without any increase in working hours. Thus one of the most urgent measures for increasing production is to place applied psychology in a position to study the problems here enumerated with the zeal and application demanded by the needs of the present day.

In conclusion it may be pointed out again that the foregoing considerations only apply to optimum hours of work from the point of view of output and to a certain extent also to maximum hours of work from the point of view of health; the "social"

demand for a maximum working day is independent of all such considerations. The establishment by law of a uniform limitation of hours of work under all conditions is only admissible from the social point of view, since, as has been pointed out, optimum hours of work for production need to be fixed in much greater detail and at very varying points.

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Minimum Wage Legislation in Canada and its Economic Effects

by

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Minimum wage legislation in Canada, which applies almost exclusively to women and girls, is administered by independent Boards or Commissions. Its main effect on wages has been to reduce the inequalities previously existing within a single industry, while it has not tended to reduce the higher wages. The Minimum Wage Boards have had a marked effect in reducing hours of work and making them more uniform, and no deleterious effect on employment has been noted. Relations between employers and workers have been improved through their co-operation in the work of the Boards. Inter-Provincial conferences and agreements are looked to as a means of preventing inequality in Provincial regulations and the fear of inter-Provincial competition.

In any description of the operation of minimum wage laws in the Dominion of Canada it must be remembered that such laws are matters of Provincial, not of Federal, jurisdiction. Canada is composed of nine Provinces, besides vast areas very sparsely populated which are administered by the central government. It is not to be expected that any demand for such laws will arise in the almost uninhabited regions, where only miners, fishermen, trappers, and native Indians are to be found. It is only under Provincial rule that they may be looked for, so that this sketch must deal with the Provinces, severally and jointly.

Yet the moral influence of the Dominion Government has helped forward the enactment of these laws. At a National Industrial Conference, convened in Ottawa in the year 1919, where representatives of practically all the interests of the country attended, for the discussion of all sorts of labour questions, this matter of minimum wage laws for women and girls met with unanimous endorsement. It was the only decision, looking to

practical legislative action, which the Conference reached. Such matters as the 8-hour day, social insurance, and similar matters were discussed at length and, no agreement being immediately possible, were decorously shelved. Doubtless the members of the Conference were relieved to find one item which carried the consent of all, and the resolution recommending each Province to pass such a law was enthusiastically adopted.

This Industrial Conference did not, indeed, initiate the movement in Canada. Already, at the date of its meeting, several Provinces possessed minimum wage laws. But it accelerated the flowing tide, so that within a short time afterwards seven of the nine Provinces had written such legislation upon their statute books. The exceptions are Prince Edward Island and New Brunswick. Of these two the former is an island with a population of less than 100,000, and almost entirely agricultural. New Brunswick, while possessing a number of factories, is still one of the least industrialised portions of Canada.

Before setting forth the various features and consequences of minimum wage administration in these seven Provinces, I shall point out two characteristics common to them all, which serve to distinguish the Canadian movement from similar movements in Australasia and Europe. One of these is the limitation of the laws to females ; the other is that the laws are administered by independent commissions, which are called Boards.

It is a curious circumstance that social legislation is generally routed to Canada through the United States. This is natural enough and is explained by the overshadowing bulk of the southern neighbour, its more advanced social organisation, the free intercourse between the two peoples, and the general resemblance of their manner of life. Anyone who interprets it as qualifyng the political loyalty of Canadians makes a grievous mistake, yet this circuitous journey is a fact which arrests one's attention. So came the Workmen's Compensation Acts. So came the Minimum Wage Acts, and so are sickness, unemployment, and old age insurance apparently destined to come.

When the first minimum wage law of the United States was passed by the State of Massachusetts in 1911, it proved to relate only to women and girls, and it was placed in charge of a commission or board quite independent of the Government in power ; thus it sharply marked itself off from any control of male labour, or of direct dependence upon parliament or Cabinet Minister. This double precedent has been generally, though not

uniformly, followed in the sixteen States which have since passed laws of this character; and Canada, swinging into line six years later, pursued the same course.

The chief reason why minimum wage laws are restricted to female workers is found in the attitude taken by the American Federation of Labour. In the Report of the Executive Council to the Annual Convention of 1913 the following pronouncements are made, which may be taken to utter the prevailing view of organised labour in the United States at that date:

> If it were proposed in this country to vest authority in any tribunal to fix by law wages for men, labour would protest by every means in its power. Through organisation the wages of men can and will be maintained at a higher minimum than they would be if fixed by legal enactment.
>
> The fact must be recognised that the organisation of women workers constitutes a separate and more difficult problem. Women do not organise as readily or as stably as men; they are therefore more easily exploited. They certainly are in a greater measure than men entitled to the concern of society. A fair standard of wages, a living wage for all employed in an industry, should be the first consideration in production. None are more entitled to that standard than are the women and minors. An industry which denies to all its workers, and particularly denies to its women and minors who are toilers, a living wage, is unfit and should not be permitted to exist.

Most of the trade unions in Canada belong to the American Federation of Labour. Hence this declaration of the Executive Council may be taken as expressing the views of organised labour in Canada as well as in the United States.

A second reason for the exclusion of male workers from minimum wage laws in the United States arose from fear of what the Supreme Court might decide as to the constitutionality of the laws. This is a reason which does not apply to Canada, so that we need not discuss it here.

In order to be finally precise, I should mention that there are two instances in Canada where the minimum wage principle apparently impinges upon the work of men. One of these is a special law passed in British Columbia in 1919 providing for trade boards for coal miners. This law has never been put into effect. The other instance is in the wording of the first minimum wage law in Canada, which took the form of a clause in the Alberta Factory Act, and which used the word 'person'. Thus it nominally applied to men as well as women, but the wage rates were set so low as to prevent its practical application to men. Thus both these apparent exceptions may be waved aside, and the

statement that the minimum wage laws of Canada are for women alone allowed to stand.

As for the reason why the operation of the law should be committed to an independent commission or board, perhaps the explanation is to be found in the phrase ' taking it out of politics '. The intention is to remove the orders to be issued from any revision at the hands of elected members of the legislature. The Government of the State or Province preserves its control through the power of dismissal of the board, or of withholding money appropriations. Thus the commission or board is appointed, as judges are, " for life or good conduct ", and freedom from political lobbying is secured. No doubt it was felt that such persons as were desired for service on these commissions or boards might not be secured unless they were given such independent authority.

In one particular the Canadian laws have not followed the precedent set by the United States. No Canadian law applies to male minors, whereas most of the States having such laws, and all of the leading industrial States having such laws, extend the protection of the law to boys. In most cases the line is drawn at 18 years. Exceptions are Texas, where 15, and Minnesota, where 21, years is the age for inclusion. Several attempts have been made, particularly in Ontario, to include the boys along with their sisters, but as yet the Canadian laws are for women and girls only.

Provincial Legislation [1]

Alberta

This Province has the distinction of having passed the first minimum wage law in Canada. It took the form of a Section in the Factories Act, and was a ' flat rate ' law. It enjoined a maximum working period of 10 hours a day, for which at least 1.50 dollars was to be paid. Apprentices might not receive less than one dollar per day. This law was passed in 1917.

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[1] A table containing a summary of the regulations in the several Provinces is given at the end of the article. The summary is by no means exhaustive, as were the attempt made to itemise all the variations of prescribed wages, hours, and conditions, as worked out for separate trades in all these Provinces, the table would be of impossible size. Its value is in displaying, in a summary fashion, the general nature of the regulations in force. More detailed information will be found in the descriptions of what has been done in the several Provinces.

In 1919, by which time the Boards of British Columbia and Manitoba were at work, the Factories Act was amended to allow committees in each of the four cities with a population of more than 5,000 to make recommendations as to wages and hours. No action having resulted from the appointment of these committees, a further amendment was made in 1920 by which one committee, sitting for the whole Province, might recommend to the government minimum wages and maximum hours. This committee duly offered recommendations as authorised, adding a further recommendation that a minimum wage board, similar to those in other Provinces, should be speedily appointed.

In 1922, and after a new government had come into power, such a law was enacted. The Board was appointed and has lost no time in issuing orders to cover all the female workers within the scope of its authority. These are gathered into six groups: manufacturing; laundries, dye and cleaning establishments; hotels, restaurants, boarding houses, etc.; personal service; office workers; and shops, stores, and mail order houses.

British Columbia

This Province passed a law in 1918 appointing a Board on the lines of the prevailing legislation in the United States. Being near to Washington, Oregon, and California, three Pacific Coast States which had already administered such laws for several years, its newly created Board took counsel from its American neighbours, and has from the first consistently carried on a successful administration. Its powers at first extended only to wages, but an amendment to the law in 1919 enabled the Board to fix limits to hours of work as well. British Columbia covers an enormous area, the most part of which is sparsely populated. Spacious valleys lie between huge mountain ranges, so that agriculture and mining are the leading occupations throughout almost the entire extent of the Province. The population is dense only in the cities which lie near together in the south-western corner, touching the Pacific Ocean on the west and the United States on the south. Here are found nearly all the female workers to whom the Minimum Wage Act applies.

The Board gathered the women-employing industries into nine groups, and issued as many orders. Thus there are orders for trades designated as mercantile; laundry, cleaning, and dyeing; public housekeeping; office; manufacturing; personal service;

telephone and telegraph; fishing; and canning of fruits and vegetables. The rates of wages vary to some extent in these orders, as is shown later in the table of average wages[1]. The groups of workers are smaller than in the more populous Provinces in older Canada. The wage rates are somewhat higher, as befits a higher price level. The law in this Province makes trades boards compulsory, so that they have been used more directly than in the other Provinces. Thus, too, the differences between the wage levels in the several orders is naturally explained.

Manitoba

The Manitoba law was passed in 1918, so that the Board in this Province began its work at almost the same time as the Board in British Columbia. This Province is predominantly agricultural, save for its capital city of Winnipeg, where one-third of the people of the Province reside. Practically all the manufacturing establishments are in Winnipeg.

There was a curious omission in the Minimum Wage Law of Manitoba. It made no provision for trades boards. Thus, when the Board was appointed, having regard to precedents established in Australia, Britain, and the United States, and being entirely without experience in such matters, it was puzzled as to the method by which it should negotiate with employers and employees. It decided to call them into direct conference with itself, becoming, as it were, the presiding body of a superior sort of trades board, which should thus have more authority than trades boards usually have. It was soon found that this plan worked extremely well. It had advantages of speed, and did not use up weeks and months debating about items in a budget. Moreover, the bargaining power of the employees was very effectively reinforced. Indeed, it transpired that the bargaining was usually carried on between the Board and the representatives of the employers, while the employees became interested spectators. Very soon the Board ceased to regret the absence from the law of any authority to convene trades boards.

This practice was followed later by several other Provinces, and has proved highly satisfactory. Thus the Board accumulates a store of knowledge, acquires a practice in conciliatory negotiation, and attains a certain prestige greater than would have resulted

[1] See below, p. 522.

if the function of negotiation were delegated to other bodies. Moreover, it establishes relations of confidence and friendship with both employers and employees which are very advantageous in the enforcement of its orders.

The Board in Manitoba issued 44 orders, covering all the women-employing trades in town and country. Later this number has been considerably reduced by a process of consolidation. The Board is still engaged in this work of revision and consolidation.

Nova Scotia

When the Minimum Wage Law was passed in this Province in 1920, it contained a Section which declared that it should come into force on " such day as the Governor in Council orders and declares by proclamation ". The government has not yet seen fit to proclaim it.

Ontario

Ontario is the most populous Province in the Dominion of Canada, and the seat of the largest number of industries, though Quebec, its immediate neighbour to the east, is not far short in either respect. More than half of the Canadian people are found in these two Provinces, the proportion between the two being roughly as four to three. Ontario is English-speaking and Protestant, while Quebec is French-speaking and Catholic, though there are influential minorities in each Province.

The law gives the Board freedom as to the use of trades board machinery. It has chosen to follow the precedent set in Manitoba, and work out its orders by means of conferences where representatives of employers and employees meet with itself. During the three years of its existence it has been steadily taking up one group of trades after another, and has now issued orders which cover nearly all the female workers in the Province. It has adopted the plan of zoning the Province according to density of population, on the ground that the cost of living varies in proportion to the size of the community. Thus the highest rates are set for Toronto, with its half-million population. A lower rate is set for cities having a population of more than 30,000. A further line is commonly drawn at 5,000, though there are variations as to this between the several orders, explicable on the basis of their distribution throughout the geographical area of the Province.

As the Act was first put forth, the Board might issue orders

respecting wages only. An amendment, passed in 1922, gave it authority to fix the number of hours for which the minimum wages should be payable, and what rates should be payable in addition for overtime. Thus it cannot peremptorily limit the work period, but it appears likely that the authority conferred by the amendment will prove quite effective for this purpose.

Up to 31 December 1923 the Board has issued 30 orders. It has grouped the trades as follows : laundry, dye-works, and dry-cleaning retail stores ; confectionery and paper products ; telephones ; textile trades ; needle trades ; trades making druggists' sundries ; office workers ; hotels, restaurants, and refreshment rooms ; leather trades ; electrical trades ; departmental stores ; printing and bookbinding.

Quebec

The Minimum Wage Law of Quebec was enacted in 1919 but has not yet been put into operation. The last Section of the law stated that it should " come into force on the day of its sanction ". It is confidently expected, on the ground of promises made to the organised labour bodies of the Province, that the necessary sanction will be given and the Board appointed during the early months of 1924.

This law applies only to females in " industrial establishments ", which excludes those working in stores, hotels, restaurants, offices, etc. The Board is to consist of three members, one of whom must be a woman.

Saskatchewan

Saskatchewan is the central one of the three " prairie Provinces ". Here are neither the coal-bearing seams of western Alberta, nor any large city community as in Manitoba. It is almost entirely agricultural, and its cities are distributing and financial centres, with few factories.

The law here is much like that in Manitoba, its next neighbour eastward, making no provision for trades boards. An unusual feature is that the enforcement of the orders issued by the Board is committed to the Bureau of Labour. As the same person is both secretary of the Minimum Wage Board and the Commissioner at the head of the Bureau of Labour, this device works quite smoothly and effectively.

The Board has gathered all the trades for which it is empowered

to fix wage levels into four groups : laundries and factories ; shops and stores ; mail-order houses ; and hotels and restaurants.

It will be seen, from the sketch just given, that minimum wage laws have been in force in Canada for such a short time that a satisfactory estimate of their economic effects is hardly to be expected. Moreover the Boards are only gradually becoming organised as statistical bureaux, and such figures as several of them give do not span more than a couple of years. British Columbia is able to array figures for three successive years. Ontario, as yet, can scarcely do more than compare wage conditions " before and after one year's enforcement ".

Nevertheless, one can gather a certain amount of pertinent evidence as to the results. Besides, there is the advantage of plurality of witnesses. The evidence has a cumulative value when a number of Boards, working in different areas and under divergent conditions, tell the same story.

Wages

The first economic effect to be looked for is the prevention of low wages. This is the manifest aim and intention of all minimum wage legislation. A characteristic feature of female employment in Canada is the wide variations in wages within each trade. There have been few trade unions with sufficient female members to make the influence of wage bargaining tell upon prevailing standards of payment. The divergencies, therefore, in the men's trades are much less. In several branches of the clothing trades in Montreal and Toronto, where the men and women are organised together, the wages of women are equalised with those of the men in a fashion which sharply contrasts with those in the unorganised branches of the same trade. Thus the difference between plants quite similar in other respects is sometimes astonishing. The Ontario Minimum Wage Board, in its annual report for 1922, published several instances of wide and apparently unexplainable divergencies. Two textile factories were found in Toronto, the average wage in one being almost exactly double that in the other. Two laundries were found, in similar towns, the highest wage in one being lower than the lowest in the other. The instances, of course, are exceptional, but it is not uncommon to find a difference of twenty or thirty per cent. in the average wages of two estab-

lishments which are apparently on equal terms in every other respect. They purchase their raw material in the same markets. They use the same machinery. They sell to the same consuming public. They draw their labour force from the same neighbourhood.

There seem to be no 'sweated trades' in Canada. Certainly some trades run to rather lower wages and longer hours than others. But it is impossible to find any trade or group of trades in which wages are uniformly low, as contrasted with other trades where they are uniformly high. The difference in average wages is of little significance. What is meaningful is that in every trade there are certain employers paying wages much lower than others, and beneath the subsistence line of self-supporting workers.

Subjoined is a table, taken from the Ontario report just mentioned, which shows the extent to which these variations are carried. It was compiled before any minimum wage order had been issued.

VARIATIONS IN WEEKLY WAGE RATES IN CERTAIN FACTORIES IN ONTARIO

Weekly wage rate	Number earning this rate			
	Factory No. 1	Factory No. 2	Laundry No. 1	Laundry No. 1
$				
Under 7	–	12	–	–
7 to 8	–	2	3	–
8 to 9	2	1	–	–
9 to 10	15	1	1	–
10 to 11	29	–	–	–
11 to 12	31	–	1	–
12 to 13	61	3	1	–
13 to 14	39	1	–	3
14 to 15	25	1	–	–
15 to 16	39	1	–	3
16 to 18	35	2	–	1
18 to 20	14	2	–	–
20 to 22	5	–	–	–
Over 22	2	–	–	–

It was upon the plea of the prevention of low wages that all minimum wage legislation in Canada came to be enacted. In no Province did any overt antagonism show itself at the time the laws were presented to the several legislatures. In some of the Provinces the employers, through their organised associations, warmly commended them to the governments in power, and lent the assistance of their legal departments in framing them. The supporters of these laws have championed them on the ground that they

guaranteed and defended a wholesome subsistence for a class of workers who are economically feeble. They were not sought by those who are most directly to benefit from them. No working women lobbied on their behalf. Perhaps if they had shown themselves capable of such organised and concerted effort the compassion of the community would not have been so readily excited on their behalf. It was the mental picture of a woman giving her life's effort to a task which did not return her sufficient for food, shelter, and clothing which stirred public sentiment to resolve that such a thing should not be permitted.

This compassionate motive, it should be noted, joins immediately on to another motive more specifically economic in its nature. There were those, among whom the leaders of governments may doubtless be counted, who were aware of the value of the comparatively high standard of living which prevails in Canada. It is a country where the goods of life are widely distributed, and the entire commercial, financial, and industrial machinery of the country operates on that basis. One need not claim that great and unjust inequalities do not exist. They do exist. There are rich and poor in Canada, and the division of wealth does not square with the ten commandments. All that may be admitted, and still the fact remains that it is a land where the many, and not the few, determine the character of every type of business. The retail stores sell to millions of customers. The factories make comforts for millions, rather than luxuries for hundreds. The motor car and the high school are everywhere, showing how widely the populace can indulge itself in travel and education. It is claimed that two-thirds of the families in Toronto, one of the two large cities of the Dominion, own their own homes.

Such a condition is worth cherishing and defending. Thoughtful men and women perceived that it might be menaced by low wages. Here and there, in the crowded wards of the cities, in villages apart from the thoroughfares of commerce, and among colonies of immigrants whose standards of living in their former homes had been below the Canadian level, wages were being pushed below the line of a buying-power competent to maintain such a general distribution of wealth. It was apparent that employers would be forced to meet this sort of competition. The evil might spread. The composition of the Canadian community might be altered, and the whole industrial fabric which had been slowly built up be dislocated. Another type of store, of factory, of school, of home, might replace those now in existence. Thus people welcomed minimum wage

laws as a rampart against the advance of the destructive low wage. They thought it good business to save the comparatively helpless working woman from being forced down below the line of decent subsistence. For how many more might not follow her in her descent ? Now it is abundantly manifest that the minimum wage laws of Canada have been useful for this purpose. They have prevented low wages. Tables of wages are hardly needed to demonstrate this fact. For this purpose — to establish this simple and desirable social protection — they do their work almost without effort. So strongly does public sentiment react to this conception — the right to live from one's work — that an instance of flagrant underpayment need only be pointed at in order to be ended. In many cases the employer apologises as he corrects his wage sheet. In others, though willing enough to pursue the policy of " the least she will take " he is dismayed at the prospect of facing general condemnation. His fellow employers in the same industry, whose interests in many respects are the same as his own, now turn against him as a competitor who has not been playing the game. I insert a table from a prominent factory in Ontario as representing the immediate effects of a minimum wage order upon the lowest wages. The employer here was active in assisting the Board to frame the order which compelled him to raise so many wages. His only comment was to the effect that he was well pleased to give these increases when his competitors were forced to do the same thing.

Weekly wage rate $	Number earning this rate in 1922	in 1923
Under 7	90	—
7 to 8	37	—
8 to 9	31	55
9 to 10	42	69
10 to 11	28	48
11 to 12	13	75
12 to 13	19	—
13 to 14	11	1
14 to 15	6	2
15 to 16	3	4
16 to 18	7	—
18 to 20	—	1
20 to 22	—	—
Over 22	1	1
Average wage	$8.81	$10.28

Recent years in Canada have been marked by the familiar symptoms of trade depression. Falling prices, falling wages, short-

time employment, and an increasing volume of unemployment have been general. Many firms have made drastic cuts in their wage rates from the higher levels to which they had risen in the reckless days of the first year of peace. The sudden collapse of dizzy prosperity in which many had over-built their premises and over-extended their advertising and selling programmes accelerated the tendency to play safe. Every item of expenses was closely studied with a view to retrenchment. Naturally the important and flexible item of wages was not overlooked ; and the same economic tempest which drove the employer to trim his sails made the workers less antagonistic to wage reductions.

Thus an important effect of the minimum wage laws was to halt this process of wage reduction at the lines fixed in the orders. A number of cases of this sort were reported to the Board in Ontario, and doubtless the same conditions produced the same results in other Provinces.

It will be seen that this first economic effect of minimum wage administration in Canada fits into the description of the problem given in an earlier paragraph. The need of such administration is not revealed in sweated trades but in sweated establishments in all the trades. The picture is not of a province or two out of accord with the other realms of the kingdom of industry, but of a peril which attacks every province and realm.

One of the fears which proposals to introduce minimum wage administration commonly breeds has been crystallised in the phrase " the minimum becomes the maximum ". It is supposed that employers will recompense themselves for the larger wages they must pay at the lower end of the wage list by means of reductions at the upper end, so that for every woman who gets more another woman will get less.

This foreboding has been disproved everywhere, I believe. Certainly the minimum has not become the maximum in Canada. The second annual report of the Ontario Board thus describes what happens :

> If one thinks of the typical wage sheet as a perpendicular pillar (which is what it looks like) with the low wages at the bottom and the high wages at the top, and the intermediate wages graded between the bottom and the top, what happens when the jack is put under this pillar and screwed up is that the whole pillar rises. It does not rise stiffly. There may be a telescopic effect, so that the top does not rise as much as the bottom. There may be displacements in some of the intermediate wage groups. But the whole pillar tends to rise. The top does not come down to meet the ascending bottom.

Thus in Ontario the comparison between wages before and after the enforcement of an order commonly shows that the highest wages have increased. Here are the figures for two of the chief trades dealt with.

Needle Trades, Ontario.

Number of female workers	10,727
Number earning more than $20 per week in 1922, before one year's enforcement of minimum rates	1,239
Number earning more than $20 per week in 1923, after one year's enforcement of minimum rates	1,381

Textile Trades, Ontario.

Number of female workers	11,872
Number earning more than $20 per week in 1922, before one year's enforcement of minimum rates	265
Number earning more than $20 per week after one year's enforcement of minimum rates	679

Besides the fact that in these two groups, which are the largest which have come under minimum wage laws in Canada, the highest wages have increased, there is another matter which is instructive. It will be noted that, while the numbers employed in these two trades are almost equal, the needle trades have twice as many earning the larger wages. This is because the needle trades are largely concentrated in Toronto, where wages are the highest in the Province, and several contingents of their female members are organised in vigorous trade unions, whereas the textile factories are mostly found in the smaller towns, and none of the workers have any labour organisation. Thus the textile group is the better test. It is virgin soil, so far as either state help or concerted self-help is concerned. The natural effects of minimum wage legislation will be more apparent. Thus, while the number of high wage earners has increased by 11 per cent. in the needle trades, it has increased by 156 per cent. in the textile trades.

In two other trade groups, in neither of which there is any organisation of workers, the figures are as follows :

Paper Box and Allied Trades, Ontario.

Number of female workers	2,124
Number earning more than $20 per week before one year's enforcement of minimum rates	44
Number earning more than $20 per week after one year's enforcement of minimum rates	57

Confectionery Trades, Ontario.

Number of female workers	2,253
Number earning more than $20 per week before one year's enforcement of minimum rates	40
Number earning more than $20 per week after one year's enforcement of minimum rates	117

Thus it appears that the increases are respectively 38 and 192 per cent. These two trade groups are about equally scattered throughout the Province, and are alike in employing large numbers of young girls, so that the disparity here cannot be explained as it was between the needle and textile trades. However, the customary wages in the confectionery group were considerably less than in the paper box group at the time of the Board's enquiries antecedent to the issuing of orders. Why this should have been so is not easy to say. But it is the reason why wages in the confectionery trades were more profoundly affected than in the paper box trades, and the results showed themselves as clearly at the top of the wage scales as at the bottom.

Thus it is apparent that increasing the lowest wages has rather tended to increase the highest wages as well, and not, as was feared, to lessen them. What of the wage levels between the two extremes, which comprise, after all, the earnings of the great majority? Something can be told from comparing averages, though in respect of women's wages the variations are so great that merely to determine averages is to be still far from comprehending the problem. It is sometimes like a marksman who shoots all round the target, so that his mean hit is a bull's eye, yet he has not hit the bull's eye. An example from two laundries in Toronto will show how this may be the case :

Weekly wage rate $	Number earning this rate	
	Laundry No. 1	Laundry No. 2
9-10	20	—
10-11	39	4
11-12	16	24
12-13	38	47
13-14	13	9
14-15	3	7
15-16	4	13
16-18	3	2
18-20	2	—

The comment of the report from which this table is taken is as follows :

Wage sheets of two large laundries in Toronto. At first sight it is not easy to say which is the better. It is rather surprising to discover

that the average wage in No. 1 is 14 per cent. higher than in No. 2. This is due to the few unusually large wages. As a matter of fact more of the workers are well paid in No. 2. Thus an average does not determine " the greatest happiness of the greatest number ".

Yet, making all due allowance for this unstable element, much may still be learned from averages. They give a bird's-eye view. They epitomise. What they lack in precision is made up by their bringing all the facts together, so that one gets a definite and serviceable conception of the case. Here are figures from the British Colombia report:

STATISTICS OF WAGES, ETC. IN BRITISH COLUMBIA, 1919-1922

Employees, wages, etc.	Office occupations				All occupations		
	1919	1920	1921	1922	1920	1921	1922
Number of firms reporting	220	1,019	1,043	1,097	1,939	1,923	2,135
Number of employees							
Over 18	750	2,467	2,434	2,502	8,481[1]	8,592[1]	8,989[1]
Under 18	60	155	50	91	1,328[2]	1,130[2]	1,242[2]
Total weekly wages in dollars, employees							
Over 18	13,683	47,941	47,156	48,341	147,247[1]	147,085[1]	152,891[1]
Under 18	804	2,110	577	1,110	15,439[2]	11,671[2]	12,546[2]
Average weekly wages in dollars, employees							
Over 18	18.24	19.43	19.37	19.32	17.36[1]	17.12[1]	17.0
Under 18	13.40	13.61	11.54	12.20	11.62[2]	10.33[2]	10.1
Percentage of employees under 18	7.00	5.90	2.01	3.50	13.54[2]	11.63[2]	12.1
Average hours worked per week	43.6	41.5	40.89	41.93	43.62	42.96	43.2

[1] Employees over 18, or experienced.
[2] Employees under 18, or inexperienced.

It will be seen that the average has been maintained, in spite of the untoward trade conditions which then prevailed on the Pacific Coast. To quote the report:

For the 8,989 experienced women employees whose names were given in the returns the average wage was exactly 17 dollars per week.

This, it is noted, is well above the legal minimum wage, as the average minimum permitted under our various Orders is 14.23 dollars weekly, so that the employers of the Province are actually paying to their female employees an amount equal to 2.77 dollars per week for each woman over and above the amount they are compelled to pay. This is one more refutation of the argument we have so often met, that the legal minimum wage in industry tends to become the maximum.

AVERAGE WEEKLY WAGES IN ONTARIO BEFORE AND AFTER ONE YEAR'S ENFORCEMENT OF MINIMUM WAGE RATES

Trade group	Locality	Average weekly wage			
		Adults		Minors	
		1922	1923	1922	1923
		$	$	$	$
Laundries	Toronto	13.37	13.91	9.33	10.30
	Cities next in size	11.02	13.12	9.33	8.40
	Rest of Province	10.91	11.33	9.11	9.47
Confectionery	Toronto	10.99	14.29	9.84	9.54
	Cities next in size	10.23	11.29	8.33	9.24
	5,000-30,000	11.81	12.50	8.17	9.14
	Rest of Province	10.17	13.65	8.85	13.59
Paper box	Toronto	14.58	14.87	10.50	10.53
	Cities next in size	11.45	12.28	8.71	10.05
	5,000-30,000	11.76	11.85	9.43	8.35
	Rest of Province	7.92	13.38	7.92	12.16
Retail stores	Toronto	14.51	14.58	9.54	9.87
Textiles	Toronto	14.04	15.82	10.10	12.08
	Cities next in size	13.21	13.18	10.06	11.45
	5,000-30,000	13.21	12.90	8.76	10.14
	Rest of Province	11.93	11.89	7.92	10.69
Needle trades	Toronto	14.06	15.00	7.95	10.51
	Cities next in size	13.84	13.76	8.49	9.03
	5,000-30,000	12.90	12.47	6.34	8.23
	Rest of Province	9.38	11.07	8.71	9.25

The table of average wages given above is of interest. It shows what happened after one year's enforcement in Ontario. Remembering the lack of precision in all averages, and that other factors besides minimum wage enforcement had their due effect upon wages, certain conclusions of value may yet be drawn. These are taken from a statement issued by the Ontario Board and are as follows :

It will be observed that the wage varies with the density of the population. On the whole the Toronto wages are the highest, then

those in the next largest cities, then those in the smaller cities and larger towns, then those in the smaller towns, villages, and the open country. This is in accordance with the cost of living, which lessens as population becomes less dense. And it justifies the action of the Board in setting lower minimums in accordance with increasing sparsity of population.

It will be noticed that the average wage for adults has increased in 15 of the 20 comparisons which are made. One of the five exceptions has been explained in another paragraph ; it is due to several disastrous business failures in one city. Another is also in the needle trades, in an adjoining group, and admits of a similar explanation. The other three exceptions are for the textile factories outside Toronto. As this trade has been increasingly busy during this period the explanation may be on account of a large number of new workers taken on. Moreover, many of the increases run to several dollars in amount, while the decreases are never more than a few cents. In five trade groups the average adult female worker is receiving 18 cents less per week, while in 15 trade groups she is receiving 1.50 dollars more per week. The average wage for minors, or girls under 18, is increased in 17 groups. The three decreases are not in the same groups as the adult decreases. They are more scattered, and occur in the laundries, confectionery factories, and paper box factories. One of them is in Toronto, one in the cities next in size, and one in the towns and cities between 5,000 and 30,000. Here again the increases to the workers enormously outweigh the decreases. In three trade groups the average female worker under 18 years of age is receiving 60 cents less per week, while in 17 trade groups she is receiving 1.59 dollars more per week.

A more definite comparison is found in the following table showing the number of workers in the Ontario textile trades earning specified weekly wage rates in 1922, before the order was issued, and in 1923, after the order had been a year in force.

Weekly wage rate $	Number earning this rate in 1922	in 1923
Under 7	257	50
7-8	338	205
8-9	668	447
9-10	864	662
10-11	1,273	1,044
11-12	1,048	1,298
12-13	1,201	1,355
13-14	1,095	829
14-15	808	975
15-16	602	664
16-18	640	860
18-20	474	365
20-22	166	339
Over 22	100	311
Total	9,634	11,872

It will be seen that a larger number of workers is reported for 1923 than for 1922. This is partly because of more complete stat-

istics and partly because this trade had provided more employment. Making all due allowance, this comparison still provides a handsome testimonial for minimum wage administration. It shows that the lowest wages have largely disappeared, that the highest wages have noticeably increased, and that the intermediate wage levels show a steady gradation throughout. The whole wage scale has risen.

Further, the excessive variations in wages to which attention has been called show signs of having been reduced. It is manifest that the elevation of the lowest wages will in itself have this effect. Besides, employers are led to pay more attention to wage rates, with the result that their wage sheets become less ragged and irregular. They are led by the regulations regarding apprentices to systematise promotion among beginners, and naturally tend to carry the process a bit higher on the wage scale. It is frequently found that, in order to avoid jealousy among the workers, the wage increases they are compelled to give the lowest paid necessitate also certain increases among those more highly paid. In that case the whole matter of wages is given more careful consideration, and the consequence is a better balanced distribution. An examination of the tables giving wages before and after one year's enforcement of minimum rates will show that this has been accomplished.

In an article by Paul H. Douglas and Kathleen Derry in the *Journal of Political Economy* for April 1922, a calculation is made as to whether " the minimum wage has decreased the disparity in pay between the workers in an industry ". The authors analyse the British Columbia statistics for 1918 and 1919 for the mercantile and laundry industries, the former year being prior to the promulgation of the first orders and the latter subsequent to them. The conclusion is reached that " there was much less variation in earnings after the minimum wage had been put into effect than previously. Little doubt can exist therefore of the tendency of the minimum wage in British Columbia to bring about a greater degree of standardisation and uniformity in wages than would otherwise exist. "

Hours

Most of the Provinces had already adopted certain measures for the control of women's hours of labour before the advent of minimum wage laws. Certain Sections of the Factory Acts limited

the length of the work periods, forbade night work, and prescribed limits for overtime. Some of these provisions were, however, so wide that they were of little consequence. Custom had established limits more favorable to the workers. Thus the law of Manitoba forbade a longer weekly work period than 54 hours. Quebec made it 55 for cotton and woollen factories and 60 hours for others. In Ontario it was 60 hours for factories and shops. But in none of these Provinces was there any apparent desire to reach these hours, except perhaps the 55-hour work week in a few of the cotton and woollen factories in Quebec. Indeed most establishments were well inside the generous confines named in the laws.

At the same time there was variation everywhere. The clothing trade, influenced by trade union agreements, held fairly well to the 48 or 44-hour period. In other factory trades the several plants differed from each other as consistently in respect of hours as in respect of wages. The textile trades in Ontario, as shown in the accompanying table, presented a picture of wide and numerous differences.

Hours per week	Number of factories	Hours per week	Number of factories
35	1	48	9
36	1	49	14
40	2	50	61
49	22	51	4
45	5	53	4
46 1/2	7	54	10
47	4	55	20
47 1/2	1	59	5

In retail stores the hours were still more irregular. Well organised departmental stores closed early, shutting their doors on Saturday afternoons and sometimes during the summer months for all that day, and asked no more than from 44 to 48 hours a week. In this occupation, particularly in the towns and villages, a mid-week half-holiday from June to September is common, the rural trade requiring them to keep open on Saturday afternoon and evening. There remained a very large number of stores, both in the cities and in the smaller villages, where the hours had never been standardised and were unduly long.

Still longer hours prevailed in hotels, restaurants, and refreshment stores, because such establishments cater for trade in the evenings and on Sundays. Many of the better sort gave their women workers one day in seven, and alternated a long and a short day through the week, but others exacted seven full days

of labour. Seventy and even eighty hours have not been uncommon.

Since the Minimum Wage Boards began to function the situation has been greatly improved.

In British Columbia the 8-hour day and 48-hour week is enforced in all industries.

In Alberta the 48-hour week is enforced in factories, laundries, and restaurants.

In Saskatchewan the Factory Act supersedes the Minimum Wage orders in case of conflict. As the Factory Act forbids more than 48 hours per week in factories, the Minimum Wage Board has not dealt with the matter. In regard to hotels and restaurants the Board has fixed a maximum of 10 hours per day and 50 per week for such as require only six days' work, but has made the limit 56 hours per week where seven days' work is required.

In Manitoba the orders of the Minimum Wage Board have in every instance shortened the period allowed by the Factory Act. For the most part the maximum is set at 48 hours, exceptions being that laundries are allowed 50 and hotels and restaurants 52 hours. In every case each worker must have one day free each week.

The particularity of the order governing retail stores in Manitoba is striking. For departmental stores in Winnipeg the maximum is 8½ hours per day and 50 hours per week. A weekly half-holiday must be given during the three summer months. In 5-10-15 cent stores a 9-hour day and 48-hour week is the maximum permitted, with 11½ hours on Saturday and 53 hours per week during December. A half-holiday must be given each week except during December. For standard retail stores an 8½-hour day and a 49-hour week are set, except that 11½ hours may be worked on Saturday and 54 hours per week during December, and a half-holiday must be given each week except in December. Fruit and confectionery stores, which are commonly open in the evenings and on Sunday, are allowed a 50-hour week with one day free each week. These figures are slightly altered for Brandon, the only other city in the Province of Manitoba.

In Ontario, where the law at first gave the Board no authority over hours, an amendment was passed in 1922, as mentioned in a preceding paragraph, granting authority to fix a maximum period for which the minimum wage rates should be payable, and to require overtime payment when that period is passed. The Board has accordingly enjoined that in restaurants, hotels, and refreshment rooms the minimum wages shall be paid for any period between 36 and

50 hours. Overtime and short time must be paid at a minimum rate of 25 cents per hour. In laundries, dye-works, and dry-cleaning establishments the minimum wages must be paid for any period between 44 and 50 hours, with proportionate payments for short time and overtime.

Only two of the Canadian Boards have authority as to overtime and night work. These are in Manitoba and Saskatchewan.

In Manitoba the Sections of the Factory Act dealing with these matters have been incorporated in the orders. As these were in existence when the Board was formed, and the Bureau of Labour acts as the agent of enforcement for the Board, there have been no changes in regard to the factory and shop trades. Several other trades, however, to which the Factory Act did not apply, have been brought under control in respect to these matters. Thus night work is forbidden in hotels and restaurants and unduly late hours in amusement resorts.

In Saskatchewan also the Factory Act contains provisions regarding overtime and night work for women. In this Province the two are administered together.

In Manitoba, where the Board has authority over conditions of labour, most of the orders contain a regulation providing for a week's notice to be given by either employer or employee in case of dismissal or of leaving employment. This regulation has been applied to the 'laying off' during slack periods. Before a factory, for instance, can dismiss its workers, with the anticipation of calling them back after an interval, it must either pay them a week's wages or secure a permit from the Board for the suspension of this regulation. Thus the Board is kept in constant touch with irregular employment and can use its influence to protect the interests of the workers. This useful regulation, however, with such a consequence arising from it, is unexampled elsewhere in Canada, or indeed on the American continent.

In British Columbia regulations regarding short-time work in amusement places impose a minimum hourly rate higher when the work period is shorter than 36 hours per week than when it is longer. This also tends to stabilise employment.

Employment

No evidence has been brought forward to prove that the fixing of minimum wage levels has anywhere in Canada reduced employ-

ment. Now and again someone has hinted that the lower-paid workers — the very class it is designed to help — would be dismissed. This statement has usually been uttered as a prediction, not as a statement of what had actually happened.

The causes of employment or unemployment are so numerous and diverse, and some of the causes operate so immediately and powerfully upon the labour market, that it must ever remain a problem of the utmost difficulty to isolate the ' hiring and firing ' due to so small a factor in the total problem as the setting of minimum wage levels. It is abundantly apparent that no general decrease of employment can be blamed upon the work of the Boards.

It is not so clear, however, but that the job of an inefficient worker is imperilled ; perhaps it ought to be. To conduct business on orphanage principles is to be unjust to both employers and employees. " A fair day's wage for a fair day's work " is nearer the ideal. A factory or a shop needs standards of work as well as of wages. It is wise to separate the relief problem from the business problem.

That being recognised, it is quite possible to use the business establishment as an aid in the solution of the problem of the subnormal. If the low wages are confined to the inefficient, and do not become the norm for the efficient, the result is a happy one. The interests of the great body of the workers are defended, the community is helped to discharge its duty towards a ' dependent ' in a sound fashion, and the subnormal worker herself is honoured and helped by being given a place in the ranks of the industrious.

The Canadian Boards have adopted several plans to this end. The first is the issuing of permits for aged or handicapped workers. Each law provides for this, and the Boards, after making investigation, lower the wage rate in accordance with the disability of the worker concerned. The largest class receiving such permits is the aged. Many firms retain on their payrolls old employees long after they are able to do hard work. Some of these firms are able and willing to pay good wages to such, but others do not or cannot carry their generosity so far. In other cases the aged have no such claims, but are given light tasks, which otherwise would be done by beginners. In a country without an old age pension system and where the desire for freedom and independence is strong in all classes of society, it is obviously wise to issue such permits.

A few mental defectives of the higher grades receive such per-

mits. It is found that they can continue at the simpler processes of work, but are incapable of the successive promotions which more intelligent girls receive. Thus they remain among the beginners, and naturally receive the wages allotted to the tasks they perform, though very often their lengthening service, even though unaccompanied by any gain in productive capacity, wins them certain increases of wages.

Such cases, and others which, because of chronic illness or some physical defect, lend themselves to precise appraisal, can be and are dealt with satisfactorily by means of permits. There is another class of inefficient worker, however, to whom the permit system is inapplicable. These are the unduly slow workers, for whose tardiness no palpable cause can be found. They would resent the stigma of a permit, even could one be granted on assignable grounds. The Board in Ontario has employed another plan for them. As most of them are in piecework groups the Board counts it sufficient if eighty per cent. of the workers earn the minimum wages. They consider that, if so many of the employees are able to earn the minimum on the piece rates current in that factory, the piece rates are thereby justified for the purposes of the order issued. To insist then on one or two of a group of girls working together to be paid at higher rates than their comrades would simply mean their dismissal. And, obviously, it is as unfair to base the piece rates on the performance of the slowest worker as of the fastest. In spite of some misunderstandings and heartburnings this rule works well.

Labour Organisation

Is is not easy to establish any definite relationship between trade union membership and minimum wage activity in Canada. Partisans of two opposite and antagonistic opinions can be found, the one declaring that such laws lead women into labour organisations, the other asserting as strongly that they keep them out. Certain employers incline to approve these laws as a defence against the advances of labour organisation, while certain labour leaders approve them as being likely to awaken the interest of women for their own betterment and to draw them into a class-conscious or work-conscious mood favourable to enrolment in trades unions. However, nothing has occurred which a calm judge would consider reliable evidence in support of either opinion.

Trade unionism in Canada is identified with trade unionism

in the United States. Even those unions which are not members of the American Federation of Labour are commonly international. In neither the United States nor Canada are female workers organised to any considerable extent. During the spacious days of 1918-1920, when wages and prices soared and there was a surplus of employment, organised labour increased its membership greatly, and drew in thousands of women along with the men. A number of unions were formed which were exclusively female. This period of excitement has now passed, the membership of the unions has fallen back to or below normal figures, and most of the exclusively female unions have perished.

At the same time there are indications that organised labour is less averse to minimum wages for men than it was when the resolution quoted in a previous paragraph[1] was endorsed in 1913. Several labour candidates for parliament have preached from the hustings the doctrine of legal protection for the wages of unskilled and casual workers. Another suggestion has been that men in the lumbering trade, because their work is in unsettled districts and therefore deprived of the support of a surrounding public opinion, and because the industry is one carried on under a certain amount of government supervision, should be given similar protection.

Moreover, organised labour has been more cordial to minimum wage administration than one might have expected from reading the above-quoted resolution. Its influence has always been thrown on the side of the enactment of the laws. Perhaps it is not too much to say that organised labour is chiefly responsible for these laws having been taken up by the several Provincial Governments. The unions have contributed from their membership to the formation of the Boards, and have been always ready to co-operate in framing the orders. They supply, too, an excellent tonic for the enforcement of the orders through their public discussions, and, from their intimate knowledge of labour conditions, furnish much information as to derelictions.

More than this we cannot say. The sway and flux of employment, and, as a result, of trade union growth, have been so violent during the last few years in Canada that it is quite impossible to assess the results either of trade unionism upon the minimum wage laws, or of these laws upon trade unionism.

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[1] See above, p. 509.

Home Work

Nothing in Canada has been attempted under minimum wage laws regarding work done in the homes of the workers. The Factory Acts of the several Provinces commonly contain provisions as to sanitation and require the getting of permits. Nothing yet touches the question of earnings.

With the growth of large industrial cities there are indications that home work of the undesirable sort is extending, particularly in some branches of the clothing trades. The Ontario Board has mentioned the matter in its report for 1922, and promises to turn its attention in this direction after it has completed its investigation into the more legitimate trades. Of course this means a new type of order, such as is common enough in Europe but has not yet been introduced into Canada, nor, I believe, into the United States. It means dealing with piece rates rather than time rates, and will involve a type of procedure quite unlike that which has hitherto been used.

Conciliation

An important result of minimum wage administration is the promotion of good feeling between employers and employees. The Ontario Board, in its report for 1922, states the case as follows :

> Minimum wage administration makes for industrial peace. One of the cardinal features of all good and lasting work by such a Board as ours is that it engages the assent and co-operation of both employers and employees. The fact that our field is a limited one, and that the moral principle of " the right to live from one's work " is so convincing, makes harmony possible. People who would dispute with each other about many other things will drop their weapons and shake hands over the proposal that working women should get enough to live on. And being drawn into friendly conference with each other, getting acquainted with each other, engaging in friendly debate with each other, revealing to each other surprising qualities of fairness and generosity, they grow to trust each other more and like each other better. The acrimony of other disagreements is abated, and the path to future conciliatory negotiations opened up.

In another way also harmony is fostered. The assembling of groups of employers with members of minimum wage boards for the discussion of the proper treatment of workers tends to elicit views more enlightened and generous than are customarily set forth in ordinary conversations. Most employers' associations

do not deal with wage questions, and the very employer whose low wages require correction seldom hears any one whom he respects argue the case for the human side of labour. It often happens that, in such a conference, he hears with astonishment some captain of industry whom he reveres lay down a policy of plant operation which magnifies the rights and interests of his employees. He goes home with a new conception of his relation to his own working force. The present writer can testify that he has seen this happen many times. Much of the success of the minimum wage work is due to the influence of the just and successful employer upon a man of less capacity or narrower experience.

Inter-Provincial Relations

Owing to the division of authority within the larger area of the Dominion the question of harmonising the orders between the several Provinces is a pressing one. The customs tariff surrounding the Dominion unifies its trade. Provincial boundaries count for nothing as respects prices and wages. Thus any additional cost imposed upon employers in any Province is a handicap in their competition with establishments of the same sort in other Provinces.

Of course there are some trades in which the element of inter-Provincial competition is absent, and others in which it is very small. Where a local service is rendered, as in laundries, hotels, restaurants, and retail stores, no objection on this ground will be raised. Certain manufactured commodities also, such as brick, are seldom carried far from the seat of their manufacture, so that they are likewise exempt from this hazard. On the other hand, there are many manufactured products the market for which is widely distributed throughout the entire country. In this group the women-employment factories are important, because they tend to the use of material light of weight and easily handled. Thus it is a common thing, whenever negotiations with employers are in progress, for this objection to be brought forward.

The fact that a similar condition exists in the United States, where the authority for legislation of this character pertains to the individual States, naturally feeds the complaints in Canada. We in Canada have, indeed, no such sharp contrasts as are afforded between the working conditions of the northern and southern States, but, in the opinion of many employers at least, there are

sufficient differences between the several Provinces to amount to a penalty being imposed upon the plants in the Provinces where minimum wage laws are in force.

It is not surprising, therefore, that at the Industrial Conference of 1919, where the enactment of minimum wage laws was unanimously endorsed, the resolution should have contained these words: "It is further recommended that the various Provinces throughout the Dominion adopt a uniform law and method of application." Nothing has yet been accomplished in this direction beyond correspondence between the several Boards looking to the holding of an inter-Provincial conference, where all matters of common interest might be discussed. In an area so vast as the Dominion of Canada, any such gathering involves a considerable outlay of both money and time. The nature of the Boards, too, where people otherwise occupied give a part-time service, makes it the more difficult to settle upon a plan and time convenient to all. So far all endeavours to arrange for this conference have failed for this reason. But the Boards, without exception, recognise the desirability of its being held and it is to be expected that it will meet before long.

The Boards are the more eager to hold this conference because their insight into the situation has modified the disquiet they may have felt as to the dangers of the dreaded inter-Provincial competition. They know that for the purposes of their work little is to be learned from comparing average wages. The question at issue is not the average but the low wage. When the general picture of wages in two competitive Provinces is examined, it is seen that there is great variation in wages in each Province. It is this variation which provides the opportunity for the work of the Boards. In every Province, in every trade, will be found wages both high and low. The low wages are not palpably triumphing over the high wages. In the Province where the average wage is the lowest will be found certain plants paying wages well above the lowest wages in other Provinces. It is apparent, therefore, that the correction of the lowest wages will not necessarily ruin any establishment. In fact, the inter-Provincial problem is much the same, so far as minimum wages are concerned, as the intra-Provincial problem. The manufacturer who complains of low-wage competition in an adjoining Province is likely to find the same thing on the next street of his own town.

Moreover, the Boards have had opportunity to learn that the proportion of the cost of production which is paid in wages to females is generally so small that a decided improvement in the lowest

wages need mean very little in total production cost. A commission of the State of New York found in 1915 that the wages of women employed in candy making averaged 5.79 dollars per week. To raise those wages to 8 dollars per week would add 7 per cent. to the payroll. But the wages of labour being only about 13 per cent. of the total cost of manufacture the increased cost to the employer would be only 7 per cent. of 13 per cent., or less than 1 per cent. That would add about one-quarter of a cent to the price of a pound of candy. Many similar illustrations in other trades are given in the report of the commission. It is apparent that there is less reason for alarm than is commonly felt by those who have not considered the relation of the cost of labour to the cost of production.

It is probable that any measure of inter-Provincial consultation would serve to advertise these little-known facts, and allay the dread of what one Province may suffer at the hands of another as a result of minimum wage administration. It would help to make known that what is needed is not so much the protection of one Province against another as the protection of the better types of business establishments in every Province against the low-paying concerns, which are also in every Province.

However, it is quite feasible to extend inter-Provincial co-operation beyond the region of correcting misconceptions. Harmony might be sought either in the laws passed by the several legislatures, or in the orders issued by the several Boards. The latter field is the more important, for the fixing of the rates is done by the Boards. It is plain that uniformity of laws between the Provinces might not result in any uniformity or harmony as to the wages or hours fixed as minimum or maximum, while on the other hand very decided differences in the laws need not hinder the Boards setting the same standards of work and pay. For instance, it would make no difference to employer or employee whether the trades board machinery had been used, so long as the decisions were the same.

Now a Board is much more flexible than a legislature. It is always potentially in session. Its discussions are not partisan debates, nor are they so likely to be disturbed by alien considerations of a political nature. It can decide, revise, amend, suspend, or abolish any of its orders at any time, smoothly and with despatch. Given then a willingness on the part of a number of Boards to co-operate, there is nothing to prevent them harmonising or standardising the orders issued in the Provinces they belong to.

It would seem, therefore, that the problem of inter-Provincial harmony is one which it should not be too difficult to solve.

SUMMARY OF MINIMUM WAGE LAWS IN THE VARIOUS PROVINCES

Province	Date	Scope		Basis of determination	Administration		Advisory trades boards
		Persons	Purposes		To issue orders	To enforce orders	
Alberta	1917, present law 1922	Females in cities and towns over 1,500 population except domestic servants	Wages Hours	None stated	Board of three members	The Board	Permissive
British Columbia	1918	Females, except domestic servants, fruit pickers, and farm labourers	Wages Hours	Inadequate wages Excessive hours	Board of three, one a woman Deputy. Minister of Labour to be chairman	The Board	Enjoined
Manitoba	1918	Females, except domestic servants and farm labourers	Wages, hours, conditions of labour.	To provide standard minimum wages, hours and conditions of employment	Board of five, two to be women	The Board	None
Nova Scotia	1920	Females in shops and factories in cities and towns	Wages, hours, conditions of labour	Necessary cost of living, reasonable hours, proper conditions	Board of five, two to be women	The Board	None
Ontario	1920	Females, except domestic servants and farm labourers	Wages, limits of hours for overtime	None stated	Board of five, two to be women	The Board	Permissive
Quebec	1919	Females in industrial establishments	Wages	If wages insufficient	Board of three, one a woman	None stated	Enjoined
Saskatchewan	1919	Females in shops, factories, hotels, etc.	Wages, hours, conditions of labour	Necessary cost of living, reasonable hours, proper conditions.	Board of five, two to be women	Bureau of Labour	None

ditions.

SUMMARY OF MINIMUM WAGE REGULATIONS IN CERTAIN PROVINCES

Province	Trade group	Experienced workers, minimum wage	Inexperienced adults		Minors (under 18)		Proportion of inexperienced	Hours per week
			Initial wage	Learning period	Initial wage	Learning period		
		$	$	Months	$	Months	Per cent.	
Alberta	Manufacturing	12.50	4 – 7	9 – 18	4 – 7[1]	9 – 18[1]	[2]	48
	Laundries, etc.	12.50	9.50	12	9.50[1]	12[1]		
	Retail stores, etc.	12.50	7.50	12	7.50[1]	12[1]		
British Columbia	Retail stores	12.75	8	12	7.50	24	[2]	48
	Manufacturing	14	7½ – 8	6 – 18	7 – 8[1]	6 – 18[1]		
	Other trades	13.50 – 15.50	9 – 12.75	12[3]	8 – 12	24[3]		
Manitoba	All trades	11 – 12.50	9	6 – 12	8	18[3]	Adults 25 Minors 25	48 – 52
Ontario	All trades	8 – 12.50[4]	9 – 10[4]	12	6 – 8[4]	18	Adults 33 1/3 Minors 33 1/3 In all 50	
Saskatchewan	All trades	14 – 15	8 – 9.50	18	8 – 9.50[1]	18[1]	[2]	48 – 50

[1] Same as inexperienced adults.
[2] No regulation.
[3] Most usual period.
[4] Rate varies according to population.

The Question of a Weekly Stoppage in Glass Works using Tank Furnaces

As one of the items on the Agenda of the Sixth Session of the International Labour Conference is the question of a weekly suspension of work in glass-manufacturing processes where tank furnaces are used, it seems useful to publish an impartial account of the main elements in the problem for purposes of information. The following article deals with the technical and social aspects of the question, the legal regulations in force in different countries, present practice, which sometimes goes farther than the terms of the law, and finally, the special conditions in the sheet glass industry. An article of this length can plainly not be exhaustive, and is intended merely to serve as an introduction to the subject by setting out some of its essential features.

Technical Aspect of the Problem

GLASS is obtained by melting a mixture consisting of silicic acid, chalk, and alkali. The silicic acid — applied usually in the form of sand, sometimes in that of crushed quartz or flint — is the main ingredient of glass and may amount to as much as three-quarters of the total mixture. For special purposes phosphoric or boracic acid can be substituted for it. The alkali used is generally carbonate or sulphate of soda. For high quality glass — in particular, when colourlessness and high polish are required — these substances are wholly or partly replaced by lead oxide. The function of the chalk in the mixture is to serve as a flux. In addition to these main materials there are also, of course, a number of secondary ingredients used in the manufacture of glass, whether as colouring material, or for the purpose of removing colour — more especially for counteracting the effects of the iron which is often present in the sand — or in order to give it other chemical or physical qualities.

The making of glass, one of the oldest branches of manufacturing industry and originally, of course, exclusively a hand industry, until quite recent times still involved some of the essential processes of the primitive hand methods. It comprises three main processes: (1) melting the raw materials; (2) refining the molten mass; (3) manipulation of the refined molten glass.

The glass is manipulated in various ways — by casting, by pressing, but chiefly by blowing, since hollow goods are one of the chief categories of articles made of glass. Even ordinary sheet glass is generally blown in the form of cylinders which are afterwards cut and flattened out. In all these methods of manipulating the glass the work was until very recent times purely hand labour done with the help of quite simple tools. The substitution of machine for hand labour is a modern achievement. The processes of melting and refining were originally and are still to no small extent carried out in simple pots or crucibles heated directly in the fire. The fuel employed was originally exclusively wood ; later coal came into use. The manufacture of glass from pots is a definitely discontinuous process. The raw materials are put into the pots, melted down and refined, and then taken out for the process of working up. As soon as the pot is emptied the process begins over again. Under such conditions Sunday work is evidently not necessary from a technical point of view or, at any rate, only on exceptional occasions when, owing to the preceding stage, that of melting the glass, having taken too long, the process of working the glass cannot be completed by the end of the week.

The situation, hitherto so simple, was completely altered when the method of using gas fuel for melting on a large scale was discovered. It became possible to perform the processes of melting and refining as a continuous operation in large tanks. The raw materials are introduced at the back of the long tank and the smelting process started. As the molten mass moves forward it passes through a zone of higher temperature in the middle of the tank where the process of refining takes place. In the third section of the tank the temperature of the glass is reduced sufficiently to give it the doughy consistency necessary for its conversion into the finished article. The viscid glass is taken out of the furnace (except in the case of a very recent method of manufacture which will be dealt with later) in the small quantities needed for the article to be made, whether a bottle, a cylinder for the manufacture of sheet glass, or whatever else it may be. The use of machines in the manufacture of bottles or other hollow ware makes no difference in this respect except that the machines are sometimes fed, not directly from the large tank, but from a smaller container into which the molten glass is first run. The process of drawing the liquid glass from the tank is therefore not in itself of necessity continuous. From what has been said, however, it

will be clear that if the charging of the tank is to go on continuously the process of emptying must also be continuous and, where the manufacture of glass from tank furnaces has been introduced, it has, in fact, been generally taken for granted that the processes of gathering the glass when it is ready for use and of working it no more permit of being discontinued than those of charging the tank and melting the raw materials.

Social Aspect of the Problem

Such, in its main features, is the technical basis of the problem, which now has to be considered, of a weekly suspension of operations in glass works employing tank furnaces. Some estimate of the

Country	Year	Number of undertakings	Number of workers
United States	1919	371[1]	77,520
Germany[2]	1921	1,169[3]	71,520
Great Britain	1921	—	43,360[4]
France	1911	158[5]	30,681[6]
Belgium	1910	110[7]	24,111
Czechoslovakia	—	113[8]	22,272[9]
Spain[10]	1910	—	16,000[11]
Poland	1923	78[12]	11,300[13]
Italy	1923	106[14]	11,000[15]
Sweden	1919	80[16]	5,883
Austria	—	54[17]	4,820[18]
Roumania	—	26	3,816
Hungary	—	18[18]	2,968[18]
Serb-Croat-Slovene Kingdom	—	15[18]	2,720
Canada	1918	9[19]	2,215
Greece	—	8[18]	619

[1] Department of Commerce, Bureau of the Census. *Fourteenth Census of the United States, 1919; Manufactures; Manufacture of Glass*, p. 8. Washington, 1922.
[2] According to a special enquiry the results of which have been communicated to the International Labour Office there were in the spring of 1923 307 glass works (i. e. excluding works engaged purely in finishing processes) with 62,609 male workers.
[3] *Jahresberichte der Gewerbeaufsichtsbeamten*, Vol. IV, p. 48.
[4] *The Industrial Yearbook*, 1922, pp. 591-592.
[5] Ministère du Travail et de la Prévoyance sociale. *Rapports sur l'application des lois réglementant le travail en 1911 et 1913.*
[6] *Résultats généraux des statistiques du recensement général de la population, effectué le 5 mars 1911*, Vol. I, Part III, p. 24.
[7] Ministère de l'Industrie et du Travail. *Recensement de l'industrie et du commerce*, 31 Dec. 1910, Vol. V, p. 648.
[8] *La Voix des Verriers*, 1 Sept. 1923.
[9] Not including 21,285 workers employed chiefly at home in finishing processes in connection woth 1,913 undertakings.
[10] Ministerio de instrucción publica y bella artes. *Censo de la población de Espana*, 1910
[11] Inclusive of the whole ceramic industry.
[12] Official communication.
[13] In 51 undertakings which were operating.
[14] Special communication to the International Labour Office.
[15] Not including 5,000 women engaged in straw plaiting.
[16] *Statistisk Arsbok*, 1922, p. 101.
[17] Not including 120 undertakings for polishing glass.
[18] Not including 34 undertakings for polishing glass.
[19] *Le Verre*, Sept. 1922.

social importance of the question may be formed by considering the statistics on the opposite page showing the development of the glass industry as a whole in the countries where it is chiefly carried on. The figures refer to various years and in other respects also are not directly comparable[1], but serve, nevertheless, to give a sufficiently accurate general view of the position.

Unfortunately it is not in general possible to determine the proportion of glass works with tank furnaces or of the workers employed in them to the total. In the United States of America 289 furnaces with 4,247 pots and 79 tanks were being used in 1919 for the manufacture of glass for building purposes (in 128 undertakings)[2]. The pots were almost exclusively (3,716) used for casting plate glass, wire glass, and similar kinds. The production of building glass represents in value one-third (32 per cent.) of the total glass production of the United States. Since of the other two-thirds half, i.e. bottles and jars, was exclusively made from tanks (in 145 undertakings) and the remainder, i.e. all other glass ware, was to a predominating extent made from tanks, it follows that a large majority of American glass workers are employed in undertakings equipped with tanks. In Poland, out of 78 undertakings 30 have tanks and 48 pots. In Germany, according to an expert estimate communicated to the International Labour Office, the number of workers employed in glass works using tanks is about 20,000, or approximately one-third of the total number of workers in the German glass industry. If it be assumed that the proportion is the same in the glass industry generally throughout Europe, but that in the United States, on the basis of the data given above, tank furnaces are used to a far larger extent, it follows that something like half of all workers in glass factories throughout the world, or at least 100,000 persons, are interested in the question of a weekly stoppage of glass works using tank furnaces.

The interest of the workers therein arises out of their desire to obtain an adequate and regular Sunday rest, an aspiration which today no longer requires justification. It is a claim of long standing which is not confined to the glass industry; it has, in

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[1] In particular, it is not always apparent to what extent the figures include undertakings engaged in finishing processes which do not themselves melt glass. However, as these are always small undertakings, this is a question which does not greatly affect the statistics of workers.

[2] *Fourteenth Census of the United States, 1919; Manufactures; Manufactner of Glass.* Washington, 1922.

the course of years, led to the introduction in numerous manufacturing processes, which are by nature continuous, of interruptions of more or less considerable duration. This development may be seen also in the glass industry, and it is the purpose of the next section of this article to examine the attitude adopted on this question in the legislation of various countries and the results obtained by the direct efforts of the workers and their trade unions in influencing the practice of the industry.

Existing Legislation

The countries in question may be divided, in respect of the law relating to Sunday rest, into two groups — those which start from the principle of complete suspension of operations in industrial undertakings on Sunday and accordingly lay emphasis on the prohibition, as a general rule, of the employment of industrial workers on that day ; and those which, without dealing with the question of a general stoppage of work, require that the individual worker shall have a regular period of rest of at least 24 hours in the week. Germany, Austria, and Switzerland may be taken as examples of the countries which adopt the principle of a stoppage of the undertaking. In considering the legislation of these countries it should be noted that the German provisions apply also to the territories which have been transferred to Poland, while the Austrian provisions also hold good for the Czechoslovak Republic.

In *Germany* Section 105*b*, inserted in the Industrial Code in 1891 and put into force by the Imperial Decree of 1 April 1895, provides that " in smelting works, factories, and workshops... workers must not be employed on Sundays and holidays ". Section 105*c* exempts from this prohibition " those kinds of work on which the full resumption of ordinary weekday operations are dependent " or " which are necessary to prevent damage or deterioration of raw materials or failure of the production process ", " in so far as such work cannot be done on a weekday ". Section 105*d*, further, empowers the Federal Council to allow exceptions from the rule laid down by Section 105*b*, paragraph 1, of the Code " in the case of specified branches of industry and, in particular, for undertakings in which the work carried on is of such a nature that it does not permit of suspension or postponement ". In virtue of this paragraph the Federal Council, in the Notification of 23 May 1906 relating to exceptions from the prohibition of Sunday

work in industrial undertakings, authorised Sunday work "for the process of manipulating molten glass in the manufacture of sheet glass, including blown mirror glass, from tank furnaces working with four or more shifts, and also, but with a stoppage of 16 hours, in undertakings working with three shifts".

The effect of the legislative regulation of Sunday work in the German glass industry is therefore as follows. Those kinds of work which are covered by Section 105c may be carried on without further authorisation. The only points to be noted are the provisions relating to supervision, which do not need to be considered here, and the provisions concerning the granting of a compensatory rest period to the individuals concerned. It is prescribed that workers employed on Sunday must have a period of rest of either 36 hours without a break every third Sunday or from 6 a. m. to 6 p. m. every second Sunday. The question as to what work comes within the meaning of Section 105c of the Code has to be settled by the employer upon his own responsibility. In the last resort the decision rests with the courts, in the event of a prosecution being instituted for unauthorised work on Sunday. However, in the statement given of the reasons for adopting the Order at the time it was laid before the Federal Council, it was made plain, and in general it is fully recognised, that the work required in connection with the heating and charging of the tanks and the supervision of the process of melting is allowed. On the other hand Section 105c does not as a rule come under consideration in connection with the manipulation of the glass. This work is only authorised to the extent laid down by the Order, i. e. during the whole of Sunday only in undertakings working with four or more shifts in which the workers have a period of rest of 24 hours after every 8 hours' work. In undertakings with only three shifts the process of working the molten glass must be interrupted for 16 hours every Sunday, while undertakings working with only two shifts must conform to the ordinary rule of a 24 hours' stoppage of operations. When a shift falls partly or wholly on a Sunday or holiday the workers must be given, either before or after it, a rest of at least 24 hours. It is to be noted that the exceptions only apply to the manufacture of sheet glass, and that consequently in the manufacture of bottles and other kinds of glass the 24 hours' stoppage of operations on Sundays is the universal rule. For glass works using pots the exemptions are different and somewhat more extensive, but do not come within the scope of this article.

The *Austrian* regulations are very similar to the German. Paragraph 1 of Section 75 of the Act of 16 January 1895 and 18 July 1905 provides that all kinds of industrial work must stop on Sundays. The exemptions which fall to be considered here are specified in paragraph 6, which empowers the Minister of Commerce, in agreement with the other Ministers concerned, to issue an Order authorising industrial work on Sundays " in individual branches of industry which are of such a nature that a suspension or postponement of operations is not feasible ". The same paragraph restricts the power thus granted by prescribing that, " in industries working on a continuous system in respect of which Sunday work is allowed, the same shall always be limited to such work as is directly involved by the strict requirements of continuous operation ". An Order issued in virtue of this provision by the Minister of Commerce, in agreement with the Minister of the Interior and the Minister of Public Instruction, on 13 September 1913 provides that in glass works " the work of attending to the generators, heating the glass furnaces, charging them with ore and broken glass, conducting the smelting process, and maintaining the heat of the furnaces " may be carried on on Sundays. Further, in the manufacture of sheet glass from tank furnaces " the work of the glass makers and their assistants, provided that they work in regular 8-hour shifts followed by a period of rest of 24 hours, and the work of the flatteners and their assistants, provided they work in regular 8-hour shifts followed by a period of rest of 16 hours, " may be done on Sundays on condition that every worker has a period of rest of 24 hours on the following Sunday or on a weekday. In the manufacture of bottles also work may go on till noon on Sunday six times in the year.

The Austrian provisions therefore, as stated, closely resemble the German. They go somewhat further in allowing the flattening of the cylinders in the manufacture of sheet glass. On the other hand, in factories in which the glass makers and their assistants work in three shifts, they provide for a regular Sunday rest of 24 hours.

The *Swiss* Federal Act of 27 June 1919 relating to working hours in factories deals with night and Sunday work together. Section 51 provides that " night work and Sunday work shall only be allowed by way of exception and by permission of the competent authority ". Moreover, " workers may not be employed thereon without their consent. By Section 53 the Federal Council has power to give " occupiers of factories in industries in which for reasons of a tech-

nical or economic nature night or Sunday work is a permanent or periodical necessity" permission to operate at those times. The Federal Council may decide in principle whether and how far the necessity of night or Sunday work has been proved for certain industries. Section 54 secures the workers a free day on every second Sunday and one work day in the week following or preceding any Sunday on which he has worked. These free days must cover at least 24 hours. The Administrative Order of 3 October 1919 issued under the Factory Act recognises in paragraph 172 (No. 64) the necessity of night work and Sunday work in glass works for processes of stoking and melting and of night work for those of glass blowing, carrying away the article, and the supervision of the annealing and flattening ovens. Thus the Swiss regulations do not admit in principle that the manipulation of fluid glass is allowed on Sunday, but there is nothing in the wording of the provisions to prevent wider exceptions being granted in individual cases, and permission to operate continuously has in fact been granted to a factory which manufactures window glass with automatic machinery.

The provisions in force in *France*, *Belgium*, and *Italy* may be taken as examples of legislation which starts from the principle of a weekly rest for the individual. The relevant provisions of *French* legislation are contained in Sections 30 to 54 of Book II of the Labour Code. The essential passages are as follows:

Section 31. No salaried employee or wage earner may be employed more than six days a week.

Section 32. The weekly rest shall be of a minimum duration of 24 consecutive hours.

Section 33. The weekly rest must be given on a Sunday.

Section 34. Nevertheless, when it is proved that the simultaneous absence from work on Sunday of all the staff of the undertaking would be prejudicial to public interests or interfere with the normal working of the undertaking, the weekly rest may be given. . .

. . . . . .

(d) by rotation for all or a part of the workers employed.

Section 38. All undertakings belonging to the following categories are entitled to arrange the weekly rest by rotation.

. . . . . .

(10) Industries which work on materials liable to very rapid deterioration.

(11) Industries in which any interruption of work would involve the loss or diminished value of the product.

Public administrative regulations shall be issued enumerating the industries comprised in the classes mentioned under (10) and (11) as well as other classes of undertaking which may avail themselves of the right to give the weekly rest by rotation.

Section 39. **Public administrative regulations shall also be issued prescribing the special exceptions for the weekly rest of specialists employed in continuous-process factories such as blast furnaces.**

The above-mentioned administrative regulations were issued as Decrees of the President of the Republic on 14 August 1907 and 31 August 1910. The former allows the granting of a weekly rest by means of a change of shift for workers attending to the furnaces in glass works and also for the manufacture and polishing of plate glass. The second Decree provides for certain curtailments of the 24-hour weekly rest in the case of special workers in the manufacture of plate glass. The provisions of the latter Decree need not be considered here, as tank furnaces are hardly used as yet in this branch of the industry. Exactly which workers are comprised under the expression " workers attending to the furnaces " *(service des fours)* is not explained in the Decree of 14 August 1907, though from accounts of what actually takes place in French glass works it appears that the term covers not merely the work of heating and charging the smelting furnaces but also that of manupulating the fluid glass and attending to the flattening and annealing ovens. If that is so, the French regulations place no obstacle in the way of continuous operation of glass works, providing that every worker has a complete day free once a week.

In *Belgium* the question is dealt with by the Act of 17 July 1905 relating to the Sunday rest in industrial and commercial undertakings. Section 2 of the Act prohibits the employment of workers on more than six days in the week and fixes Sunday as the rest day. Section 4, however, prescribes that workers may be employed 13 days out of 14 or 6½ days out of 7 in certain groups of undertakings — among others, in industries in which the nature of the work does not allow of interruption or delay. The rest day or the two half-days which must be granted every two weeks need not necessarily fall on Sunday nor on the same day for all the employees of an undertaking. This regulation is of general application, and therefore every undertaking may decide for itself, subject to reversal of the decision by the courts, whether it is entitled to operate on Sunday. Only the employment on Sunday of young persons under 16 and female workers under 21 is as a rule made dependent on special authorisation, which is granted, in the case of the manufacture of sheet glass from tank furnaces, flattening works, and pot furnaces, by the Order of 28 July 1906. Thus Belgium, in contrast to France, does not

recognise for the glass industry the principle of a weekly rest of 24 hours for every worker.

The *Italian* regulations, on the other hand, as laid down in the Act of 7 July 1907 No. 489 relating to weekly and holiday rest, resemble the French legislation. According to Section 1 of the Act the proprietor or manager of any industrial or commercial establishment must grant to every person not belonging to his family who is in any way engaged in the undertaking a rest period of not less than 24 consecutive hours every week. Section 3 prescribes that the weekly rest shall normally fall on Sunday. Section 4 provides that the weekly rest may be granted on a day other than Sunday and by rotation in a considerable number of cases, those which are of importance for the purposes of this article being industries with furnaces kept going continuously, the operation of which does not permit of interruption, and industries involving continuous technical processes or having continuously running machinery. The decision as to what undertakings fulfil the requirements laid down by these exceptional provisions is reserved for Royal Decree. Further, Section 9*b* provides that the compensatory rest shall also amount to 24 consecutive hours and shall as often as possible fall on Sunday. As regards glass works a Royal Decree of 29 August 1908 allows the granting of a weekly period of rest in rotation to those workers who are employed in attending to or supervising or keeping up continuous furnaces or on work closely connected with the output of the furnaces. These provisions leave it beyond doubt that in Italy also the manipulation of molten glass, as well as work connected with the flattening and annealing ovens, is allowed on Sundays.

Current Practice

Legislative provisions of this nature are as a rule the expression of the view generally held in the country as to what restrictions of industrial production are justifiable under all circumstances after taking into account technical and, above all, economic requirements. It is not seldom the case, however, that custom is a more or less considerable distance in advance of the minimum standard prescribed by legislation. A striking example is *Great Britain*, where the industrial employment of adult workers on Sunday is subject to no statutory limitation whatever, but is nevertheless restricted in practice. Thus in bottle works, as documents

received by the International Labour Office show[1], work stops from noon on Saturday to 6 a.m. on Monday. The above survey of statutory provisions must therefore be supplemented by an examination of actual practice in the various countries.

The first fact revealed by such an examination is that the position is in no way uniform in the various branches of the glass industry. Glass works generally fall into the following three groups, even if the categories do not entirely correspond in the various countries : (1) sheet glass works ; (2) bottle works ; (3) glass works making other kinds of glass ware.

The first two groups comprise the definitely large-scale production — above all, the manufacture of window panes, ordinary wine, beer, and mineral water bottles, and jars. The characteristic common to all these kinds of glass is that they need not be absolutely colourless. Window panes have a greenish tint and bottles are green or brown, often indeed of such a dark hue that they can almost be described as black. Owing to these differences of colour, glass works are in many countries divided into green and black glass works, while the third group is often distinguished from these under the name of white and hollow-ware glass works. Important sub-divisions of the last-mentioned group are plate glass works (it should be noted that the superior qualities of window glass — in particular, the large sheets used for shop windows — are plate glass) and electric bulb works. In addition to these two well defined sub-divisions all household glass and also all glass used for optical or scientific purposes come under this third group. In the white and hollow-ware group manufacture from pots is still of considerable importance, although here too tanks are being used to an ever-increasing extent. Bottle glass is made almost exclusively in glass works with tank furnaces. In the sheet glass industry the two methods of melting still exist side by side.

These various groups of the glass industry differ considerably in their attitude to the question of the weekly suspension of work. The only factories which operate on a strictly continuous basis, so far as can be seen from the trade journals available and the provisions of a number of collective agreements, are the sheet glass works of *Belgium* and *Czechoslovakia*. Nowhere else does the industry take full advantage of the opportunity of continuous operation given by the legislation of many countries, except in the case of

[1] Communication from the National Federation of Glass Bottle Workers.

an automatic machine for the manufacture of sheet glass which will be dealt with below.

In the *French* white glass works using tank furnaces there is as a rule a 30-hour suspension of work and in bottle and window glass works one of 18 hours. An official return for the year 1913 shows that even at that time 98 undertakings out of 156 had introduced a weekly stoppage of 24 hours or longer[1]. In *Belgium*, as has already been mentioned, sheet glass works operate without interruption. Bottle glass works, on the other hand, suspend work for 24 hours every week. In *Italy* a suspension of 8 hours a week is usual in sheet glass works, one of 12 hours a week in the manufacture of the cheaper sorts of bottles, of 30 hours in that of ordinary bottles, and of 18 hours in that of white glass. In *Austria*, in an enquiry made as far back as 1909[2], it was ascertained that in hollow ware and bottle works work stopped 24 hours or more every week, while in sheet glass factories the system of continuous operation predominated, being further authorised by the Order mentioned above.

In *Czechoslovakia* a collective agreement concluded on 8 May 1922 between the employers in the glass industry at Teplitz-Schönau and two unions of glass workers deals separately with undertakings operated continuously and discontinuously. In the former work is arranged in four 8-hour shifts. For the latter the agreement prescribes a 48-hour week, which evidently would not be possible without a suspension of work of at least 24 hours. In hollow ware and bottle works, according to a communication from the Czechoslovak Government, the 24-hour stoppage required by legislative provisions is regularly observed, so that, leaving aside glass works using pots, undertakings operated continuously are to be sought only in the sheet glass industry.

In *Germany*, as was seen above, the 24-hour stoppage of work in all glass works which work with only two shifts and the 16-hour stoppage for those working on a three-shift system have been statutorily established since 1906. Reports are available to show that in Germany the two-shift system prevailed generally before the war, so that the 24-hour suspension of work may be considered to have been the general rule for the last 16 years. Here again, however, sheet glass factories formed an exception ; most of them

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[1] MINISTÈRE DU TRAVAIL ET DE LA PRÉVOYANCE SOCIALE : *Rapports sur l'application des lois réglementant le travail en 1911 et 1913.*

[2] *Erhebungen betreffend die Arbeitszeitverhältnisse in Glashütten.* Preliminary report by Karl HAUCK and Franz KEILER in " Soziale Rundschau ", Aug. 1910.

worked four 8-hour shifts, though they usually dropped out one production shift on Sunday in order to allow necessary maintenance work to be done. After the war, as the result of the introduction of the 8-hour day, the three-shift system was generally adopted, but the weekly stoppage of 24 hours was maintained and introduced also in the sheet glass industry. It is expressly provided for in the collective agreement for the German sheet glass industry dated 29 March 1923 for undertakings using tank furnaces. The collective agreement for the bottle glass industry of 2 July 1923 takes it for granted and confines itself to providing that persons engaged in stoking, melting, and charging, i.e. work which for technical reasons it is indispensable to continue on Sundays, shall be paid for this Sunday work at an increase of 25 per cent. on ordinary rates.

Of particular interest is the position in the *United States of America*, whose glass production is easily the largest in the world. Conditions of production differ fundamentally from those obtaining in the older industrial countries in that from the first the industry has had to contend with the scarcity of skilled labour and has therefore had a powerful incentive to develop the manufacture of glass by machinery. The effect of this is seen in the fact that at the present time 94 per cent. of all bottles and jars made in America are machine-made[1], while in the manufacture of sheet glass the production of factories in which the glass is made by skilled blowers without the aid of machinery has fallen to 25 or 30 per cent. of the total annual production[2].

Also in American undertakings manufacturing other kinds of glass ware, machines have to a large extent replaced the hand worker. A series of collective agreements concluded by the Glass Bottle Blowers' Association of the United States and Canada and the American Flint Glass Workers' Association shows that a complete Sunday rest is the rule in all glass works with the exception of sheet glass factories (which are not represented by the said unions), even in those in which automatic machines are in use. The reports on the position in this respect in the window glass industry are scantier and less complete. Among other evidence, however, there is a wages agreement between the American Window Glass Company, Pittsburgh, and its cutters and flatteners[3]

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[1] *National Glass Budget*, 5 May 1923.

[2] *Ibid.*, 24 Sept. and 6 Oct. 1923.

[3] *Ibid.*, 1 Sept. 1923.

which shows that these groups of workers have a complete Sunday rest. In the undertaking in question the cylinders out of which the window glass is made are blown by machinery, and the terms mentioned are to have effect for all factories using machinery of this type, which together make more than half of the window glass produced in the United States[1]. Another report[2] speaks of glass works equipped with these cylinder machines as suspending operations for a period of 24 hours weekly. On the other hand those undertakings which use an absolutely new machine known as the " Libbey-Owens ", a machine which draws the glass directly from the tank in the form of an endless band, operate without a break.

From this survey it appears that a weekly suspension of 24 hours has been practically everywhere adopted, in the manufacture both of bottles and of white and hollow ware, by glass works using tank furnaces and encounters no objections. Only in the production of sheet glass do there seem to be certain difficulties, and these, as the German example in particular shows, cannot be regarded as technically insuperable. The question might therefore be regarded as settled but for the fact that the effort to secure the establishment on an international basis of a weekly stoppage of 24 hours in glass works using tank furnaces has reopened the discussion of certain technical and economic aspects of the problem, and in particular that doubts have been raised as to the possibility of stopping for 24 hours the automatic machines which gave recently been introduced in the sheet glass industry. It is therefore necessary to pursue this subject somewhat further.

Peculiarities of the Sheet Glass Industry

The main argument of those who oppose the indiscriminate application of the principle of the 24-hour stoppage of work in glass works using tank furnaces and, in particular, its compulsory adoption in the sheet glass industry is that the practicability of the measure in no way proves its expediency. In this connection it is of interest to note the information supplied by the Czechoslovak Government in answer to the questionnaire of the International Labour Office, which states that that country had

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[1] *Le génie civil*, 24 Jan. 1924.

[2] *National Glass Budget*, 21 June 1923.

introduced the complete Sunday rest after the political changes of 1918 but has now re-established the continuous system of working. Economic considerations were a motive for the change in this case. Objections of a more fundamental character, however, are not wanting. The employers in those countries where the conception of a general stoppage of work is not embodied in legislation protest at the outset against the " substitution of the principle of inactivity of the plant for that of a rest for the workers "[1]. This standpoint appears to overlook the claim of the workers for a regular Sunday rest, for human labour, even if it only consists of supervision, cannot yet be dispensed with in the processes of production save in certain very exceptional cases.

As a matter of fact, however, industry has in the course of its development discovered — and accepted the consequences of the discovery — that there are often disadvantages inseparable from continuous working which more than outweigh the theoretical advantage of an uninterrupted utilisation of the plant. It is not only that the labour problem is always difficult under the system of continuous operation, but the equipment also needs periods of rest, in order to be attented to and kept in good order. The industrial field occupied by continuous undertakings has therefore steadily narrowed from year to year. A manufacturer of machinery or of furniture, for instance, would never think nowadays of working at night simply in order to save the coal necessary for making up the heat which the boilers lose during the night. On the contrary, at the present time the continuous system is in general adopted only when the process cannot for technical reasons be interrupted or when such interruption would involve disproportionately high costs.

Both considerations were formerly advanced to prove the necessity of continuity of operation in glass works using tank furnaces in general, and are still urged to show the necessity of the system in the manufacture of sheet glass. In the account of glass making given at the beginning of this study the processes of manufacture were explained in so far as seemed necessary to define the scope of the enquiry, but the description must be carried somewhat farther if it is to be possible to express an opinion as to whether continuous operation is indispensable or not.

The tanks, which are now built with a capacity of 200 cubic metres or more, may be described as long and comparatively narrow

[1] *Le Verre*, May 1923.

troughs about 1½ metres deep with a vaulted roof. They are made of fire-proof masonry and when working are kept completely full of melting or molten material. The necessary temperature, which in the part of the tank where the refinement process takes place is in the neighbourhood of 1,200° C., and at the place where the glass is gathered is still about 800°-900° C., is produced by means of gas flames directed from above on to the contents. To maintain the heat constant in such quantities of material at such high temperatures is, of course, extraordinarily difficult, and it will readily be understood that the adjustment of the heating to the changes produced in the rate of movement of the mixture, when there is any interruption or alteration of the process of drawing off the glass, does not proceed without a hitch if the workers responsible have not acquired the necessary experience. It may easily happen that the tanks and their contents become too cold or too hot, and a deviation in either direction from the normal temperature is prejudicial and may even be dangerous.

As already mentioned, the heat is applied from above. The result of this is that the temperature under normal conditions of operation is considerably lower at the bottom of the tank than on the surface. The fall in temperature is as a rule so considerable that on the floor of the tank a protective layer of solidified glass is formed. It has been found by experience that in keeping the glass hot when it is not moving, i. e. when no glass is being drawn from the tank, the temperature may easily be increased downwards to such an extent that this protective layer melts, and the masonry of the tank may break as a result of the intense heat to which it is thus directly exposed. On the other hand, it is necessary at all costs to prevent the contents of the tank cooling to such an extent that they solidify, because they cannot be brought back to the fluid condition without serious damage to the masonry. Pronounced fluctuations of temperature cause tensions and fractures in the roofing of the tank and elsewhere which considerably shorten the life of the tank.

Experience has shown that in practice it is almost impossible to escape all the risks involved in keeping the mixture warm when it is completely stationary. A way was found, however, of surmounting these difficulties by taking more out of the tank in the course of the working week than is put in. If it be arranged that the quantity of material in the tank at the end of the week is less than the quantity at the beginning of the week by approximately the amount necessary for one day's work, it becomes

possible to continue the process of charging the tank without interruption during the weekly stoppage and to continue melting in order to refill the tank. In this way a certain amount of movement in the molten mass still goes on and the risks incurred when it is absolutely still are avoided. This process is also successfully applied as a daily routine by undertakings which out of consideration for their workers desire to avoid night work or have to suspend work at night because they cannot find the necessary labour[1].

A further objection to interrupting the manipulation of the glass on Sunday which might be made is that the costs involved in keeping the mixture hot with no production are disproportionately great. Reliable statistics of these costs are not obtainable, and alarming estimates of their amount must be received with the reservation that in the nature of things it is hardly possible to calculate them, because on Sunday, under the system described above, not only is the mixture being kept warm but in addition the supplies needed for a day's production are being melted. The largest part of the heat used for a tank furnace is consumed in melting the raw materials and effecting their chemical transformation into glass. The maintenance of the temperature in itself requires only a comparatively small amount of heat.

The above remarks apply to the operation of tank furnaces in general, whether in the manufacture of bottles or of sheet glass. A further objection, however, to the suspension of the processes of gathering the glass on Sunday is made on the ground of the effect of such suspension on the quality of the glass. This explains why the resistance to stoppage of operations is so much greater in the sheet glass than in other branches of the industry which, as has been seen, have practically everywhere adapted themselves to the 24-hour rest. It is maintained that over-heating the mixture or keeping it for too long a time at certain dangerous temperatures adversely affects its optical qualities. A process of de-vitrification sets in, which under certain circumstances may go so far as to produce opalescence in the finished article.

These phenomena are confirmed by numerous observers. A German expert whose opinion has been directly communicated to the International Labour Office considers that the interruption of the normal movement of the mixture through the tank leads

[1] F. FAGNOT: *Rapport sur le travail de nuit des enfants dans les usines à feu continu*, p. 22. 1908.

to the formation of layers which have been exposed to different temperatures and are not optically homogeneous. In the window glass made from such a mixture these layers produce slants or streaks which seriously interfere with the transparency. It may easily be shown, he says, that the glass produced during the first few hours of resumption of operations after a long stoppage is particularly apt to have such defects. The writer of an article on devitrification[1] declares that this phenomenon occurs when the glass is kept for too long at the critical temperature of melting point or the point of solidification. A communication from the General Confederation of French Production *(Confederation générale de la production française)* to the International Labour Office also lays emphasis on these phenomena.

Where such effects are produced they obviously involve financial loss, not because the product is absolutely useless but because of its inferior quality. Needless to say, such damage is not a necessary consequence of every suspension of operations in tank furnaces. The risk seems to vary with the composition of the mixture, and ways will no doubt be found of avoiding it by suitable adjustment of the heating, by modifying the construction of the tanks (equipping them with bridges, partitions, etc.), and in certain circumstances by appropriate combination of the raw materials. It may be recalled in this connection that there has as yet been little opportunity of acquiring experience in the manufacture of sheet glass from tank furnaces, and that very many factories making sheet glass still prefer to use pots. In Germany, for example, out of 10,000 male workers employed in the sheet glass industry only 3,000 are working in undertakings using tanks. These figures refer to undertakings in which the sheet glass is blown by the mouth in the conventional way. The machines for the manufacture of sheet glass, which of late years have been coming into use in ever increasing numbers, are of course exclusively fed from tanks. In connection with the production of sheet glass by machinery there is a further matter to be dealt with which gives a completely different aspect to the whole question of the Sunday rest in sheet glass works, but it will be convenient first to refer briefly to another point.

It is frequently maintained that the process of flattening the cylinders in the sheet glass industry, and along with this the operation of the flattening and annealing ovens, also do not permit

[1] *Le Verre*, June 1922.

of interruption. This, however, is purely a question of factory equipment. By the time they leave the hand of the blower and have been cut off at the end the cylinders are cold, and have to be reheated in the flattening ovens. The reheating of these ovens after suspension of work involves no technical difficulties, neither does it entail a disproportionate consumption of fuel. Sunday work therefore appears unnecessary here, provided that the oven accommodation is sufficient to enable the production of seven days to be flattened and annealed in six days.

To revert to the question of production by machinery, the construction of practical machines for the manufacture of sheet glass has only succeeded after long and wearisome experiments. The efforts of numerous inventors were always thwarted by the impossibility of drawing the glass from the molten mixture in a band of uniform breadth. Molten glass behaves like honey; when honey is wound up in a broad band on a spoon, this band rapidly becomes narrower, tapering down to a fine thread which eventually breaks off. The American engineer, Lubbers, evaded this difficulty by abandoning the attempt to get a band of glass directly from the molten mixture and devising a machine for drawing cylinders, the diameter of which he kept constant by introducing a regulated supply of compressed air. By this system it is now possible to draw cylinders up to 70 centimetres in diameter and 10 metres in length. When they have reached the required dimensions they are cut off and flattened like the hand-blown cylinders. It was stated above that more than half of the sheet glass manufactured in the United States is made by these machines, and that they allow a suspension of work on Sunday.

In the meantime, however, the efforts to draw sheets of glass directly from the tank had achieved success. Two machines have been constructed which draw the glass in endless bands up to 2½ metres in width. The inventor of the older of the two machines is a Belgian, Fourcault. The way in which he overcame the difficulty of drawing glass in a band of uniform width is as simple as it is ingenious. He constructed a float of fireproof material shaped like a long narrow trough with a slit in the bottom equal in length to the width of the sheet of glass required. The dimensions of the float are so arranged that the slit dips a few centimetres into the molten mixture so that the fluid emerges into the trough in the form of a fringe of glass of the required width. This fringe is drawn slowly upwards, and as, in consequence of the natural pressure, glass keeps steadily flowing through the slit the mixture

in the trough constantly presents a uniform width of glass ready for the continuation of the process. The thickness of the sheet depends on the speed of drawing. In the course of its upward journey it solidifies, and, after it has travelled between the conducting rollers in the tower built directly over the slit a sufficient distance for it to become completely cool, it is cut off to the required lengths.

The machines work very well. According to the reports of the trade journals, 55 of them are already in operation, 44 are being installed, and 34 more are on order from the factory where they are made. A machine produces on the average 20,000 square metres of window glass per month, so that the production of all the machines at present or shortly to be in operation will be equal to the total Belgian production (30 million square metres annually) of window glass. It is in Belgium that most of the machines have been set up, though they are being sold all over the world, and are finding a very good sale, even, it may be noted, in the United States.

The second machine is the Libbey-Owens, of American origin. This machine draws the band of glass directly from the molten mass, ingeniously avoiding shrinkage by gripping the edges between fluted rollers which turn more slowly than the roller which pushes the band forward.

It is a requirement of both machines that the level of the molten mixture shall remain constant. In the case of the Libbey-Owens machine the level must be restored as soon as the deviation exceeds 5 millimetres. With these machines, therefore, the system of allowing the level of the mixture gradually to sink in the course of the week's work so that the melting process may be continued on Sunday without glass being drawn is impracticable. If a weekly stoppage is imposed, some special arrangements will therefore necessarily have to be made.

The question of a weekly stoppage of 24 hours in the sheet glass industry thus requires some consideration. In other branches of the glass industry, however, experience seems to show that such a stoppage is not technically impossible.

Night Work in Bakeries

The Sixth Session of the International Labour Conference which opens on 16 June 1924 will have among other matters to consider night work in bakeries, in pursuance of a resolution adopted by the Third Session of the Conference in 1921[1]. *This and a subsequent article are intended to place before the reader the more important facts, arguments, and proposals relevant to the question. In the following pages some description is given of general conditions in the bakery trade, machinery and methods, and hours of work, with special reference to night work. The reasons advanced for prohibiting night work and the possible difficulties entailed are indicated. The ensuing article will give some account of national legislation on the subject and will examine the various points which need to be considered in seeking a solution of the problems involved in the prohibition of night work in bakeries.*

A NATURAL question to ask is why night work in bakeries deserves attention any more than night work in other trades and industries. There are two reasons : in the first place night work in this trade is unlike most other forms of night work. In continuous-process industries, for instance, although night work is always going on it is done in rotation by different shifts of workers. On the other hand, in most bakeries where night work is in force the same man works night after night (with the possible exception of Saturday), week after week, year after year. For the baker night work is, to all intents and purposes, a permanent condition. In another respect also night work in bakeries differs somewhat from night work as it exists elsewhere. In most night-working trades it is practically impossible to arrange the work otherwise. In baking, however, there is no insuperable technical obstacle to the elimination of night work.

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[1] "The Conference, taking into consideration the fact that several countries have already regulated night work in bakeries, and that those countries which have adopted this reform have thereby achieved great progress in the sphere of public health, invites the Governing Body of the International Labour Office to study the question of the prohibition of night work in bakeries, and to place this question on the Agenda of a future Conference."

The Governing Body decided on 12 April 1923 to include the general question of night work in bakeries on the agenda of the Sixth Session of the Conference.

The problem of night work in bakeries is nevertheless one of great intricacy. The chief difficulty is that the present organisation of the trade makes a change from night work to day work particularly difficult because it is liable to upset existing competitive relations between the different classes of bakeries. There is a means of obviating this possible unfairness almost entirely, but this only at the cost of a more or less considerable inconvenience to the public. In essence, the question whether or not there should be night work in bakeries rests on the decision as to which of three evils is the least : the bad effects of continuous night work on the baker ; possible disturbance of the economic and competitive conditions of the trade ; or the infliction of some inconvenience on the public. The decision is further complicated by numerous smaller points, for or against each of these courses, and by the variety of ways in which the particular course chosen can be made less inconvenient.

To be in a position to give a considered judgment on what action should be taken nationally and internationally in dealing with the problem of night work it is necessary to consider first of all the conditions of the baking trade in so far as they affect the question.

The Bakery Trade

The term " bakeries " is usually applied to all establishments manufacturing bread, cake, pastry, confectionery, and smallgoods generally ; sometimes the manufacture of biscuits is also included. The production of bread, however, is the main work of the bakery trade, and it is the baking of bread that is done at night. The problem of night work in bakeries is therefore essentially that of the manufacture of bread, the making of smallgoods coming into the question as a subsidiary consideration only.

The governing factor in the bakery trade is that bread becomes stale in a few hours and unpalatable in a very few days. For this and other reasons bread as a rule cannot be transported economically for anything but short distances. Add to this consideration the fact that individuals and localities show distinct preferences for different types of bread, and the reason for the outstanding peculiarity of the baking trade becomes apparent : for the most part bread baking has not become industrialised. The distribution over wide areas of a rapidly deteriorating product, that product to be of the particular shape, size, flavour, colour, and texture required by different districts and different customers, makes

anything approaching mass production difficult, if not impossible. Apart from a comparatively few " bread factories ", as they are sometimes called, the making of bread is still essentially a handicraft.

In considering the effect on the bakery trade of a change from night work to day work, it is useful to adopt some rough scheme of classification of the different types of bakeries. There are several criteria which might be adopted : the number of operatives employed ; the extent to which machinery is used ; whether work is done in shifts ; whether bread only is baked or other goods as well ; whether the bread is sold over the counter or delivered at the house ; whether the trade is retail or wholesale : these are all possible bases of theoretical classification. For the present purpose it is convenient to divide bakeries into three main classes along practical rather than theoretical lines.

There is, first of all, the small type of bakery employing no paid workers. Usually it is a one-man business. Frequently members of the family work in the bakehouse, and sometimes two or more partners work together. This type of bakery is found even in the largest towns of highly industrialised countries. In small towns and in rural districts it is common. Such a bakery probably sells its bread over the counter, but may possibly run a delivery trade also. As a subsidiary line it may perhaps bake cakes, pastry, confectionery, and smallgoods generally. It probably uses very little if any machinery and necessarily has a strictly limited output.

The bakery of medium size, employing one or more operatives, is equally common and very little more industrialised. The master baker himself in most cases works in the bakehouse. Bakeries of this class probably run both a counter and delivery trade and, as a general rule, make smallgoods as a sideline. Rather more machinery is used than is generally found in the one-man bakery — a dough-kneader, for instance, and possibly a superior type of oven.

Finally, there is the large bakery employing a number of operatives, using machinery as far as possible, doing a large retail or wholesale business, sometimes both, and necessarily carrying on a large delivery trade. Such bakeries are naturally confined almost exclusively to the big towns. A number of them work on a system of shifts, so that the most undesirable feature of night baking — perpetual work by night — is avoided. In certain of these machine bakeries practically every operation is

done by machinery. Machines have in fact been designed to perform every operation necessary to convert flour into bread, but so far no record has come to notice of any completely automatic bakery actually in existence.

It should be understood that this division into three classes, although corresponding more or less to a natural division, is to a certain extent arbitrary. All large bakeries, as judged by the number of operatives employed, are not necessarily well equipped with modern machinery. On the other hand, some few small bakeries and a number of medium-sized ones may be comparatively well equipped.

In what relation these three classes of bakeries stand to one another as regards the number of persons engaged it is impossible to say. The proportions vary from country to country and statistics are almost completely lacking. As an example of this paucity of statistics it is noteworthy that in Great Britain estimates of the number of operative bakers employed in 1919 ranged from 30,000 to 90,000 ; it was thought by the Departmental Committee of the Ministry of Labour enquiring into the question of night work in bakeries at that time to be about 60,000.

In most countries small bakeries would seem to preponderate, or at least did preponderate at the time for which figures are available. In France, according to the 1901 census, there were 44,000 bakeries, being one bakery per 874 inhabitants. As a large proportion of the country population make their own bread, it may be assumed that the average bakery provided bread for a relatively small number of consumers. According to a report presented by M. Soulé to the Central Labour Council in 1911, there were 48,000 master bakers employing an average of two operatives apiece. In Italy the census of 1901 gave 36,166 master bakers and 45,093 baking operatives, which would seem to show that the small undertaking predominates in the Italian baking trade ; the number of inhabitants per bakery amounted to 898. In Switzerland, according to the census of 1905, there were 7,509 bakeries, which represents one bakery to every 465 of the population. In Germany the last industrial census (1907) showed that there were 16,169 bakeries in which no operatives were employed ; 95,799 bakeries employing less than 10 operatives, these accounting for 178,704 of the total number of operatives employed ; and 1,469 bakeries with more than 10 operatives, giving employment to 27,886 workers. The average number of inhabitants per bakery was 547.

In a number of countries co-operative bakeries are of considerable importance. In Germany some 289 co-operative bakeries employ a total of 8,000 workers. More than half of these are small establishments, and only 64 employ 12 or more operatives. In Belgium 89 co-operative bakeries, employing 1,800 workers, provide bread for about one-eighth of the population. In Switzerland there are 158 such bakeries, many of them being well equipped with machinery and working in shifts.

Machinery and Methods

The machines and methods in use in the bakery trade require some description, as they have considerable bearing on the question of night work. In particular those which shorten or lengthen the process of bread manufacture, and those in which operation by day differs in sone respect from operation by night, are of importance.

In many of the smaller bakeries machinery is practically non-existent. The dough is laboriously kneaded with the hands and arms, sometimes with the feet. It is divided, weighed, and moulded by hand. Direct heating is sometimes used to bake the bread; the same door is used for both the bread and the fuel, and the oven is charged and the batch withdrawn by means of a long wooden shovel — a lengthy and fatiguing process which, moreover, often gives bad baking results. The bread, once baked, is kept on shelves or tables and freely exposed to the air until sold.

Apart from relatively simple appliances to be found in most bakehouses of any size — such, for instance, as apparatus for sifting and blending the flour — perhaps the most useful and commonest piece of machinery in use is the dough-kneader. This contrivance saves the baker much heavy and exhausting work, and obviates direct contact with the dough, which is unpleasant to both the maker and the eater of bread. The divider, which automatically delivers the correct weight of dough necessary for a loaf, is much rarer. The mechanical moulder, which shapes the bread ready for the oven, is rarer still. These operations of dividing and mouiding are still done by hand even in the better equipped of medium-sized bakeries and, it might be said, invariably in the numerous small bakeries. In addition to these machines the largest bakeries sometimes have automatic means for bringing about the ferment-

ation of the bread, cold storage facilities (*réfrigérateur*) for checking fermentation, and other elaborations necessary for dealing with large quantities of bread at a time[1].

The types of ovens employed vary in different countries and in the different classes of bakeries. The small baker with old-fashioned plant frequently uses direct heat from wood, coal, or coke. More modern types of furnace employ steam-heated pipes, gas, electricity, and other means of obtaining the necessary high and even temperature. Where electricity is used for baking, the question whether work shall be done by day or by night sometimes has a particular significance, as in some countries the price of electricity is less at night than during the day. One important piece of mechanism, saving much time and fatigue, is the draw-plate. This is a sliding plate or tray, mounted on wheels and running on rails, by means of which the oven can be charged or the batch removed in two or three minutes, instead of the half-hour usually required when the long wooden shovel is employed.

The methods of making bread vary in different countries and in different localities. The problem of night work occurs almost exclusively in bakeries making vesiculated wheaten bread, that is to say, white bread having the characteristic texture of membraneous cavities or vesicles. An essential step in the manufacture of such bread consists in the fermentation of the dough which, by generating carbon dioxide, brings about the necessary vesiculation. Two processes are in general used to secure this fermentation. In the one, yeast or some other means of producing the necessary chemical reaction is used. This system is in general use in Great Britain and a large number of other countries. In the other process leaven or " sour dough ", consisting of a portion of dough held over from the previous baking, is employed. This older method is in use in France and most other countries on the Continent of Europe. Among other methods, that used in preparing the so-called aerated bread is perhaps the best known. Here the carbon dioxide is artificially generated and forced at high pressure into the water used in making the dough.

An important consideration from the point of view of night. work is that the process of fermentation varies greatly in duration In Scotland, for instance, where a " sponge " is made as part of the process of securing proper fermentation, this preliminary work

[1] For a description of the machinery and methods in use in the most modern type of bakery cf. *Monthly Labour Review* of the United States Bureau of Labour Statistics, Dec. 1923.

has to be done some 15 hours before baking. With other methods 12-hour, 10-hour, and 8-hour doughs are all common, that is to say, the dough must be made 12, 10, or 8 hours before baking. In some processes as little as 2 hours is sufficient for the necessary fermentation to take place. By the process of aeration it is stated that two sacks of flour can be converted with ease into 400 2-lb. loaves ready for baking in forty minutes. In a number of processes it is necessary at intervals of a few hours to add flour or flour and water to the fermenting dough. Machines to do this have been designed and are in use in some bakeries. If during the process of fermentation the temperature is too high — as may happen in warm countries during the day — or too low — as may happen in adequately ventilated bakehouses at night — the process of fermentation may be adversely affected. The numerous processes in use all produce different types of bread, each type varying in taste, colour, and texture, in the period during which it remains fresh, and in the number of days before it becomes unpalatable.

A further point about the technique of the bakery trade with a highly significant bearing on night work is that cakes, pastry, etc. require a lower temperature for baking than bread. As a general rule they are made as the oven cools down after bread baking. Thus in many bakeries, particularly in those of medium size, the oven is in use for baking bread at night and for pastry during the day.

In connection with the machinery and methods used in the making of bread it is necessary to consider how bread is transported. A large proportion of the bread made is not sold over the counter, but is delivered at the house. This delivery of bread is sometimes highly competitive, rival carters vying with each other and neighbouring shops by catering for the tastes and fancies of the prospective customer. In country districts the baker's rounds are sometimes very long and his calls much scattered, so that in outlying places no more than two calls a week can be made. Transportation is a matter of special importance in large bakeries. Many of these bakeries have branches or shops to supply and have to arrange for delivering the bread to these branches or shops at an early hour in the day.

Most of the retail delivering of bread is done by horse-drawn vehicles or by hand barrows. Motor transport has been adopted only to a very limited extent, among other reasons because the frequent stoppages necessitated in retail delivery tend to make it uneconomical. A point to be noted in connection with the cart-

ing of bread is that loaves fresh from the oven cannot be loaded at once as they tend to crumble.

One or two miscellaneous technical points about the making and selling of bread may be noticed. It is well known that the great majority of people prefer to receive their bread on the day it is baked. This is not always with the object of eating it while new, but, in many instances, of keeping it in reserve, eating it on the following day when it is slightly stale. The testimony of carters and sellers of bread all goes to show that stale bread is in very small demand and generally difficult to dispose of. The market for stale smallgoods is still more restricted, and they frequently have to be marked down in price before they can be sold. Another detail of some importance is that bread decreases in weight as it loses its first freshness. Twelve hours after leaving the oven a loaf is said to have lost anything up to 5 per cent. of its original weight. Where bread is sold by weight this fact has to be taken into consideration in any scheme involving the sale of stale bread in larger quantities than at present. Another relevant detail is that bread can be, and to a certain extent still is, made at home in many country districts, and it would not be difficult to revert to this practice if occasion arose.

Hours of Work in Bakeries

The hours of baking are determined on the one hand by the requirements of the public, these requirements being strictly enforced in many cases by the stress of competition; on the other by technical considerations and motives of economy.

As mentioned above, the tastes of the public differ with each country, often with each district, and to a certain extent with each individual. There is moreover a general preference for new bread. To meet these different tastes and this particular preference, competition among bakers naturally arises, and to a certain extent the hours of baking are determined by this necessity of competing for custom. Competition in fact is held directly responsible in some countries for the introduction or re-introduction of night baking. In Belgium, for example, night work became general only towards 1881-1882. About this time limited companies and co-operative societies were formed in the baking trade at Antwerp, Ghent, and Brussels; being equipped with up-to-date machinery, they were able to sell new bread early in the morning and thus capture custom from the smaller bakeries. In order to meet

this competititon small master bakers were everywhere obliged to introduce night work. Canada furnishes an example of the re-introduction of night work because of the competititon between bakeries. A Dominion Order during the war forbade the selling of bread until 12 hours after baking, with the consequence that day baking became fairly general. Some time after the close of the war this Order was rescinded. In British Columbia it is reported that day baking continued for a while, until, following on an unsuccessful strike in the bakery trade, a number of operatives set up one-man businesses on their own and, by working at night, attracted much of the custom from the other bakeries, which were then compelled to follow suit.

Speaking generally it may be said that in those countries where night work in bakeries is not prohibited about half the bakehouses work at night. Thus, an enquiry made by the Labour Department of the British Board of Trade in 1911 showed that in the United Kingdom, according to returns made by employers, 38.5 per cent. of the bakehouses with less than five journeyman bakers and 42.3 per cent. of the bakehouses with five or more journeyman bakers began work before 4 a.m. According to returns from trade unions covering only England and Wales, the percentages were slightly higher, 48.1 per cent. of the bakehouses with less than five journeyman bakers and 68.5 per cent. of the bakehouses with five or more journeyman bakers being represented as working by night. Somewhat similar figures were obtained in France and Italy, prior to the prohibition of night work in those countries, in the enquiries made by the Italian Labour Office in 1906 and by the French Central Labour Council in 1911. In Finland also an official enquiry in 1904 showed that 52 per cent. of the men and 48.6 per cent. of the women employed in the bakery trade were at work between 9 p.m. and 5 a.m. Nevertheless, in some countries, in spite of there being no legal prohibition, night baking appears to be comparatively rare. Thus, in the enquiry of the British Board of Trade already referred to, it was found that of a total of 3,340 men included in the returns from Scotland only 143 were night bakers. In the Argentine it is reported that day work is the system generally in force.

Baking is usually done at night because it is then possible to provide hot bread or rolls for breakfeast, to send the carters early on their rounds, and to have new bread in the shop all day. By this means also fresh smallgoods, baked after the bread, can be put on sale earlier in the day than otherwise.

Exactly what hour the baking starts and finishes depends upon the number of batches baked, upon the equipment of the bakehouse, and upon the demands of the public and the means adopted to meet these demands. According to the methods and equipment used, each batch of bread baked may take anyting from 2 to 4 hours from the time the table hands start work to the time the loaf is ready for sale. In addition, one or several batches may have to be baked; the public may make its greatest demand for bread in the early morning, or not till late in the afternoon; it may be necessary to transport the bread some considerable distance, or it may be sold directly over the counter. There is consequently no regularity among bakeries in the matter of hours of working. One bakehouse may start work at 11 p.m., another not until 4 a.m. In some of the large machine bakeries a system of continuous working in shifts has been introduced. For the most part, however, where night baking is the rule, work starts in the small hours of the morning, or even before midnight, and continues for the 8 hours or more which make up the baking operative's working day.

In bakeries where no work is done on Sunday specially long hours are usually worked on Friday night and Saturday so as to get out sufficient bread for the week-end. Some bakeries employ extra hands to tide them over this period of extra pressure. Similar arrangements are made to provide for holidays.

The work which has to be done preliminary to baking is one of the questions of minor importance entering into the problem of the prohibition of night work. The dough, or the sponge used in making the dough, must be made from 2 to 15 hours before baking, according to the method employed. The firing of the oven is another preparatory task which must be done some time before the actual baking can start, exactly how long depending upon the type of oven in use. The number of men required for these preparations naturally varies with the size of the output, the extent to which machinery is employed, and other circumstances.

Arguments for Prohibition of Night Work

In view of the peculiar conditions described above, it is hardly surprising that night work became so very general in the bakery trade. Nevertheless it has not been accepted without protest, and many arguments have been brought forward for its prohibition.

As might be expected, the agitation for the prohibition of night work has come mainly from those most directly affected by it — the baking operatives themselves. The movement has received considerable support from trade unions generally and from awakened public opinion. It has also been aided to some extent in certain countries by an absence of rigid opposition from some of the master bakers.

The grounds on which the prohibition of night work has been urged are chiefly those affecting the health and general well-being of the baker and his family. That continuous night work is likely to have an adverse effect on health is obvious. Lack of sunshine, lack of fresh air, lack of out-door exercise, and lack of sleep all make for poor health. Loss of weight, anaemia, digestive troubles, and premature old age, the characteristic effects of night work, are all found to a marked degree among bakery workers. Mr. Zadek[1] states that the health of bakers is undermined by the conditions of their work and that this is accompanied by progressive physical and mental deterioration. Statistics cannot be relied upon to show this as forcibly as it exists in actual fact. Frequently slight illnesses are not reported. Where the operative lives in the home of the master baker grave illnesses are sometimes concealed. Most important of all, workers in bakeries frequently change their occupation when they find that it is affecting their health. In spite of these facts, which tend to make statistics under-estimate the deleterious effects of night work in bakeries upon the health of workers, the figures Mr. Zadek quotes show that the average length of life among bakers is abnormally low. Information derived from English sources puts it at between 42 and 48 years. In Vienna the length of life of bakers and pastry-cooks averages no more than 40 years. The evidence brought together by Mr. Zadek also shows that bakers are subject to certain illnesses to a much greater extent than the average of workers in other trades.

It should be noted, however, that the excessive morbidity of bakery workers cannot be regarded as a definitely established statistical fact. A study of mortality rates in Great Britain made by the Departmental Committee of the British Ministry of Labour in 1919 revealed that morbidity among bakers was below the average for all occupied and retired males, except for the age period

[1] ZADEK: *Hygiene der Müller, Bäcker und Konditoren*, in "Weyls Handbuch der Hygiene", published by Professor A. Gartner, Leipzig, 1921.

45-65. The comparative mortality figure for bakers of all ages was actually 5 per cent. less than the average for all occupied and retired males. Mortality due to phthisis (6 per cent.) and alcoholism was slightly above the average and that due to bronchitis very much higher (42 per cent.). Hernia also is excessively fatal among bakery workers. It should be added that the extent to which night work is responsible for the abnormal prevalence of these diseases among bakery workers cannot be estimated.

The effect of continuous night work on the baker as a family man and citizen is altogether to be deprecated. The proportion of bakers remaining unmarried is generally considered to be unduly high. Those who do marry are naturally unable to take their rightful place in the family life. They are, in fact, to a certain extent a burden to their family. The children must be kept out of the house or be kept quiet while in it to allow the night worker to get the necessary sleep. His wife must provide meals at odd times and keep irregular hours herself if she is to look after her husband. The baker employed on continuous night work cannot take part in most of the social and communal life going on around him. He is practically cut off from a world that sleeps when he wakes and wakes when, after long and exhausting work, he himself needs rest.

The effect of poor health and abnormal living conditions, the feeling that he is outside the regular life of the world, result in the depressed mental state frequently found in the bakery worker. Statistics of suicide in Great Britain, covering 100 different trades, show bakers and pastrycooks as the third highest on the list. In Italy the percentage of suicides among bakers ranks seventh among all other trades. This proneness to suicide furnishes some rough indication of the general condition of mind among bakery workers. A tendency to alcoholism — to which the high suicide rate is no doubt attributable in part — and to wild living generally, loss of self-respect, and absence of personal cleanliness are other evidences of the reaction of unnatural conditions of working and living on their mental state.

Along with the arguments based on the bad effects of continuous night work on the bodily and mental health of bakery workers are some other rather less trenchant reasons for the prohibition of night work in bakeries. One is that under a system of day work healthier and more contented workers working under more normal and more hygienic conditions would turn out a product superior both in quantity and quality. In particular, the danger

of bread suffering from contamination by reason of its contact with unhealthy and careless operatives [1] or its storage in places not scrupulously clean would be far less than at present. Further support to this argument is afforded by the considerations that the efficiency of work and of supervision is generally greater by day than by night, that adequate ventilation is more possible and that factory inspection is more likely to be thorough during the daytime than during the night. Another argument sometimes used is that put forward by the British Trades Union Congress in 1904 in a resolution urging the abolition of night work in bakeries " especially in view of the statements, declarations and opinions of the medical profession that bread should be baked at least 12 hours before its consumption ". An incidental point in favour of day baking is that the changes in plant made necessary by the substitution of day work for night work would result in the elimination of many of the unhealthy bakehouses still existing [2]. Another consideration of some importance is that owing to the prevalence of night work apprentices are not entering the bakery trade and in some countries, by reason of the regulations governing night work of young persons, could not do so even if they wished until over 18 years of age.

Objections to the Prohibition of Night Work

A preliminary survey of the baking industry from the point of view of the possible regulation of night work would not be complete without some account of the difficulties encountered in attempting such regulation. Specific objections to the prohibition of night work in bakeries naturally vary with each country, each district, and each individual affected. It is possible, however, to distinguish some objections of general validity which must be taken into consideration in attempting to formulate any general solution of the problem.

The consumer of bread is liable to be affected in a number of

[1] It is to be noted that this danger from contamination arises chiefly in the handling of the bread after baking. The process of baking eliminates practically all danger of conveyance of germs as a consequence of the manipulation of dough, etc.

[2] Thus in Great Britain all underground bakehouses are compelled to have a license. When such bakehouses go temporarily out of use the license is never renewed. As the necessity of enlarging plants would almost certainly result in a number of these bakehouses falling into disuse they would be automatically eliminated.

ways. There is in most countries a strong demand for hot rolls or new bread for breakfast. The prohibition of night work might make it impossible for this demand to be met. In any case, as bakers working on a system of day work could at best get out only a portion of their bread at this hour, those districts in which it is the custom to buy the day's supply of bread in the early part of the morning would be put to some inconvenience. Moreover, bread carters would start out later on their rounds, with the consequence that in some districts bread would not be delivered until inconveniently late in the day. Another possible objection from the point of view of the consumer is that bakers, in order to get the bread out quickly, sometimes have recourse to artificial means of hastening its manufacture which are detrimental to the quality of the bread. In some countries, moreover, it is alleged that the heat during the day is too great to permit of proper fermentation of the dough, which likewise gives bad baking results.

The master baker would be affected in a number of ways by any change from night baking to day baking. Each type of bakery has its peculiar objection to the prohibition of night work. The self-employer maintains that to prevent his working when he wishes to is an infringement of personal liberty. The type of bakery which uses its ovens night and day — usually for bread at night and for pastry during the day — urges that without night work it is impossible to meet the demand. Large bakeries working continuously on a system of shifts point out that the economies effected by a full use of their machinery, by the saving of fuel arising from the fact that the ovens are not allowed to go out, and by the saving of time usually lost in finishing up and restarting work, permit them to sell bread more cheaply — a policy which other bakers, by force of competition, are compelled to follow.

Yet another series of objections put forward by the master bakers to anything like an absolute prohibition of night work is that some latitude must in any case be allowed to meet circumstances beyond their control, such as accidents, alterations, and sudden increases in demand ; to carry out the necessary preparatory work ; to cope with the week-end and holiday trade ; and to meet brief seasonal increases in demand. It is usually pointed out also that a change from night work to day work will upset the present competitive balance of the trade. To what extent this is true, which class of bakery would be likely to profit and which to lose, cenessarily varies with the particular form of prohibition adopted,

and with the circumstances obtaining in each district; but the objection on the whole appears valid and deserves attention.

Finally, there are some miscellaneous objections to prohibition of night work from the point of view of the baking operative. To start baking at 4 or 5 a.m. means that workers living some distance from their place of work must get up in the middle of the night and possibly find difficulty in obtaining the necessary means of conveyance. In hot countries it is urged that the operatives prefer to work at night because it is cooler. Moreover, under a system of day baking, bread carters could not get most of the work done before the heat of the day, as they do now. A minority of workers also are said to prefer night baking, as it gives them free time for other business during the day.

To meet these objections numerous devices have been put forward and embodied in the measures for prohibiting night work which have been adopted or proposed in the different countries. To examine these various solutions will be the task of the ensuing article.

(To be continued.)

The Utilisation of Leisure in Finland

The development of facilities for the utilisation of workers' leisure is one of the points on the Agenda of the next Session of the International Labour Conference. It has already been stated that it is proposed to publish in the Review *some reports which appear to be of special interest, received by the International Labour Office, as to existing facilities of this kind in certain countries. The* Review *for February last contained an account of the utilisation of leisure in Austria. The article below gives an account on similar lines of the position in Finland*[1].

THE introduction of the 8-hour day in Finland under the Act of 27 October 1917, as amended on 16 April 1918, has brought to the front the question of the utilisation of workers' leisure time. The Act in question covers mines and quarries, industries, manufactures, crafts of all kinds, the building industry, hotels and restaurants, the various transport undertakings, and other industries of minor importance. While prescribing a maximum working day of 8 hours and a working fortnight of 96 hours, the Act of 1917-1918 also authorises the Government to grant exceptions to various industries. The Government has used these powers in favour of certain branches of industry, particularly building undertakings, timber felling, hauling and floating of timber, railways, posts, telegraphs, telephones, etc. Similarly, in certain undertakings, the technical nature of which demands continuous work on a three-shift system, employers are allowed to work 168 hours over a period of three weeks (Decree of 20 December 1923). This rule has given rise to violent opposition on the part of the workers.

There have also been certain administrative difficulties; according to factory inspectors' reports, the provisions relative to overtime, weekly rest, and night work have in certain undertakings not always been observed. It should be added, however, that these infringements of the Act are sometimes brought about with the consent of the workers, who are anxious to earn overtime

[1] The article is based on information communicated to the Office by Mr. Niilo A. MANNIO, Director of the General Department of the Finnish Ministry of Social Affairs.

pay. It may be seen, therefore, that the employment of leisure time is not a very great problem for a large number of workers.

Economic Position of Finland

During the war Finnish industries were comparatively prosperous, as a result of large orders for the Russian army; but after the Revolution of 1917 and the Finnish War of Independence of 1918 they were seriously handicapped. The salient feature of the post-war situation in Finland, however, was the rapid recovery which began during the second half of 1921. Production increased and trade developed in spite of the closing of the Russian market. It is worthy of remark that in 1922 the trade balance was favourable, the labour market was calm, and there was no unemployment. The financial position was stabilised without the Government having to resort to deflation, which would have been fatal to production. From 1920 onwards it was possible to balance the budget, and the Government was in a position to reduce taxation — a striking phenomenon in Europe. A sign of this prosperity was the stabilisation of Finnish currency.

Nevertheless, this favourable position has not been altogether maintained. Since the second half of 1923 the general political and economic uncertainty in Europe, together with foreign competition, had the effect of restricting Finnish markets. The 1923 harvest was mediocre and its indirect financial effects were disastrous. The trade balance became unfavourable again in 1923, and thus, at the present moment, economic conditions are less favourable than they were at the beginning of 1923.

In Finland the climate is very severe, and the population scattered, with a relatively low standard of living. Even before the war housing conditions were far from satisfactory, and Finland has not escaped the housing crisis which has affected so many countries. The aggravation of this state of affairs of recent years is due, as is known, first, to the cessation of building during the period of hostilities and, secondly, to the increase in building costs after the war, caused by the rise in prices of materials and in wages. Some idea of the gravity of the situation may be gathered from the fact that in August 1922, in the towns, 3,381 families, comprising 13,772 persons, were without accomodation, and that in December 1923 there were still 2,800 families homeless. In such circumstances workers affected by the housing shortage can

hardly have been in a position to profit by the leisure afforded them by the introduction of the 8-hour day.

Effects of the Eight-Hour Day and Necessary Adaptations

Finnish workers were favourably treated by the authors of the Act, who inserted a provision including in working hours the time taken by the worker to proceed from a place fixed by the employer to the place where the work was to be done, and to return thither at the end of his work. Further, the state railway management has put on special trains for workers, who can thus easily reach their work in town from their homes in the suburbs. There are also specially reduced fares on these trains, as also for the early services on the omnibus routes. Finally, some employers have organised free train and boat services to take their workers to and from the factories.

Once the 8-hour day was adopted, it became of great importance to prevent workers from wasting their time or from utilising their leisure to their own detriment. For this purpose, attempts were made by various associations to forbid the consumption of alcoholic liquor. It is interesting to note that the workers themselves took the initiative in favour of prohibition long before the introduction of the 8-hour day, and co-operated in the foundation of a society called the Friends of Temperance (*Raittiuden Ystävät*) which at the outset drew its members from all classes of the population, and has been well known for forty years for its activities in this field of work. But after the War of Independence, the workers withdrew from this society and founded their own Workers' Temperance Association (*Suomen Työväen Raittiusliitto*). These two societies have local branches throughout the country, which recruit members and conduct temperance propaganda. The first society, which is now bourgeois in tendency, has 291 affiliated societies with 17,334 members, while the workers' association has 273 affiliated societies with 17,546 members. Apart from their own papers, they publish temperance pamphlets and books and organise courses of lectures on the same subject. The Friends of Temperance also endeavour to protect children from the evil influence of drinking by the foundation of temperance schools and bands of hope (*Toivonliitto*), which have in all about 4,000 members.

The two societies seek to attain their main ends not only by

propaganda work, but by legislative means. All political parties, and particularly the Labour Party, have for 20 years included a general prohibition Act on their programme. After the parliamentary reform of 1906, the Act was passed in 1907 and in 1909, but as the result of the opposition of the Government it was not promulgated until after the Russian Revolution of 29 May 1917, and came into force on 1 June 1919. Both the aforementioned societies have done much to secure the adoption and enforcement of the Act. The Act prohibits the manufacture, sale, storage, and importation of liquors containing more than 2 per cent. of alcohol, except for medical, technical, and scientific requirements. Infractions are punished by fine, and in serious cases by imprisonment. Convinced that the Act would be most beneficial to the population in general, and particularly to the workers, the two societies have done their utmost to ensure its observance. At the same time, all supporters of prohibition united their efforts to found a great militant association called the Prohibition League (*Kieltolakiliitto*), to which all the workers' associations are affiliated. This association has a membership of more than 200,000 and employs 900 propaganda agents. It records monthly and annually all violations of the Act, cases of drunkenness, seizures by the customs, and the number of doctors' prescriptions involving the use of alcohol. From certain individual observations it appears that the workers in general, particularly those in the industrial centres far from towns and in the coast districts, have experienced the beneficial effects of the Prohibition Act; they lead more sober lives and spend their leisure to better advantage than formerly.

Among other measures to prevent the misuse of leisure time may be mentioned the fact that the state, the municipalities, and, most of all, the big industrialists have set aside considerable sums for the improvement of workers' housing. This point will be returned to later. The authors of the Act and the Government have also taken steps to prevent the workers from devoting their leisure time to other employment. Thus, the special provisions of the Act of 27 November 1917 limit the amount of overtime which a worker may be compelled to work for the same employer. Further, the Labour Agreements Act of 1 June 1922 prescribes that every worker who concludes an agreement of this nature may not, without the consent of his employer, bind himself to do any other work which would even partially prevent him from fulfilling his contractual obligations. If a worker is engaged to work for two employers, the first agreement alone is valid and the worker is

bound to indemnify the second employer for any loss which he may have caused him if the employer, at the time of the conclusion of the second agreement, was ignorant of the existence of the first agreement. This final provision has often been introduced into the labour regulations which employers are legally compelled to draw up.

The reduction of working hours has allowed the working classes to devote themselves to various new activities or at least to be more methodical and regular in their existing activities. In this connection, trade union and co-operative activities may be specially mentioned.

Trade Union and Co-operative Activities

It was only at the end of the last century, when workers' associations began to be founded, that the workers began to organise, and to develop a certain measure of political activity. Little by little, scattered trade unions sprang up, ultimately forming an organisation which covered the whole country. The object of the Federation of Finnish Trade Unions (*Suomen Ammattijärjestö*), which was created in 1907, was to organise these associations and generally to centralise the movement. Its membership increased every year, until in 1917 it included 31 trade unions, with 1,656 branches and 160,695 members. This mass adhesion to the Federation was due to political circumstances, but in 1918 the membership diminished considerably, and in 1923 was no more than 48,146.

The unions deal with the improvement of labour conditions and the campaign against unemployment; they encourage the foundation of unemployment and other benefit funds and take an interest in the co-operative movement and in all measures for increasing the well-being of their members. They also deal with education and organise lectures and classes; they give financial support to libraries and organise debating circles, social evenings, etc. For the better carrying out of their programme, the trade unions have constructed great "people's houses" in the towns, industrial centres, and municipalities; here general meetings and evening gatherings are held, and the libraries are installed.

The co-operative movement also plays an important part in the social life of the workers. Some mention may be made of the fact that, apart from its proper functions, the Central Union

of Consumers' Co-operative Societies (*Kulutusosuuskuntien Keskusliitto*) organises annual courses for the staff of co-operative societies and publishes newspapers for its members.

Education

The institution of the 8-hour day has enabled the workers to devote their leisure time to intellectual and vocational pursuits. For convenience of description, a distinction may be made between organisations which have a definitely pedagogic object and those which pursue moral or utilitarian ends.

In the first place should be mentioned workers' institutes, which are due to the action of philanthropists who took an interest in workers' education. But it was not long before the municipalities took the place of such benefactors, and the workers themselves soon came to take an active part in the movement. These institutions give popular lectures and elementary classes in civic education; they also organise classes for home workers, debates, social evenings, popular fêtes, and excursions, and generally endeavour to raise the intellectual standard of the wage earners. Before 1920 there were only about ten such institutions; but at the present day there are 39, not only in the great towns and industrial centres but also in the country. The number of students varies from betwen 300 and 500 or more in the larger institutes (the Workers' Institute at Helsingfors has between 5,000 and 6,000) to between 50 and 150 in the smaller ones. The total number of pupils is about 14,000. There is a central organisation, the Association of Workers' Institutions (*Työväenopistojen Liitto*), which endeavours to encourage the movement. It is now in full swing, and its great social value is just beginning to be understood. The association carries on the current business of the institutes, provides lecturers, etc. The institutes themselves are generally municipal, but are sometimes managed by individual groups. They have an independent management on which there are delegates elected by the workers. They receive financial support from the state, which bears about half the expenses.

The Association for Workers' Education (*Työväen Sivistysliitto*), which recruits its 300,000 members among the workers, is also of great educational importance. According to its 1922 report, it includes 15 different organisations, with a total of 303,800 members. This association, which is also subsidised

by the state, organised 102 classes attended by 40,260 students in 1922. It includes in its programme the formation of study circles. In 1922 it had instituted 114 circles, of which 14 were in the Swedish language. These circles take courses in social questions, the labour movement, labour legislation, historical and philosophical questions, literature and fine arts, natural sciences, languages, etc.

In this connection mention may be made of the Society for Popular Instruction (*Kansanvalistusseura*), which organises correspondence courses followed this year by 4,570 persons.

The courses organised by these various societies have been supplemented by the foundation of libraries. At the present moment there are more than 3,000 popular libraries, but there are no general statistics as to the number of books borrowed. The largest library is that of Helsingfors, which consists of a central library and three branches. At the end of 1922, it possessed 109,308 books and the number of loans for reading off the premises was as much as 582,943 (or 3.1 loans per inhabitant). The library includes reading rooms for the consultation of reference books, public reading rooms, and newspaper rooms, which were used in 1922 by about 600,000 persons. All the other towns have a municipal library, which generally includes a newspaper room. Similarly a large number of rural municipalities possess a public library so organised that there is a central library in the chief village and local libraries in the neighbouring villages. Reading rooms exist only in certain rural municipalities, and chiefly in the more densely populated industrial centres.

At the beginning of 1921 the state set up a special committee, consisting of a director and five members, to organise the movement for popular libraries. These officials do propaganda work and act in an advisory capacity in the various districts. The committee also deals with the training of librarians, and publishes a catalogue of new books as they appear. In 1923 the state made grants, amounting in all to 340,000 Finnish marks, to 433 libraries.

The regular yearly increase in sales of books, even in the provinces, where there are bookshops in most of the towns, shows the great desire of the working classes for education. Newspapers, and even periodicals, are increasing their circulation and almost every worker subscribes to some paper. The enthusiasm for knowledge among the working classes is even more remarkably shown by the large number of workers who attend courses in the free public educational institutions. The general aim of these

courses is to raise the general educational level and encourage self-education.

But this does not exhaust the list of measures for ensuring an intelligent use of the workers' leisure time. During the last theatrical season, the state subsidised seventeen workers' theatres, and there is an Association of Finnish Workers' Theatres (*Suomen Työväen Näyttämöiden Liitto*), which is also subsidised. The Finnish Workers' Philharmonic Association (*Suomen Työväen Musiikkiliitto*) endeavours to foster a taste for music among the working classes. In the towns and in the large provincial centres of industry, choirs, brass bands, and dramatic societies, recruited largely from the working classes, have been formed. Every year these institutions organise choral and musical festivals in various parts of the country.

The religious education of the workers is admirably looked after by the Industrial Centres Evangelical Society (*Teollisuusseutujen Evankelioimisseura*). It is the aim of this institution to develop the personal initiative of the workers, and it is specially interested in the labour conditions of children and young persons. In 1919 it founded at Helsingfors the first Christian-Social workers' centre to provide young persons with Christian and moral instruction, which now has thousands of members. Its courses, which are regularly attended by about 500 students, are given in a free educational institute. Social studies and the catechism are among the most important of the subjects with which it deals.

Of a similar nature is the work of the Society for the Protection of Children (*Kenraali Mannerheimin Lastensuojeluliitto*), founded by General Mannerheim. It has branches in most of the big industrial centres and has organised day nurseries, holiday homes, etc. for children.

Finally, the work of the White Ribbon Society (*Valkonauhan Yhdistys*) on behalf of children and young girls should be mentioned. Its chief objects are the care of deserted children and the moral protection of young women. For this purpose, it has organised clubs for their especial benefit, where an attempt is made to interest them in social questions. At the same time the clubs enable girls and women to meet, read papers, play games, or do manual work.

On the utilitarian side, the vocational education of the workers is not neglected. In all the important centres there is a school of manual work subsidised by the municipalities, the trade unions or private individuals. Courses are held in the evening, in order

to allow all workers of whatever trade or age to attend. The Finnish Printing Association (*Suomen graafillinen Liitto*) founded an educational establishment at Helsingfors, which was subsequently taken over by the municipality. The students at this institution work one day a week in a printing works and on the following day attend technical classes, composing, printing, drawing, etc. The state railways have also established schools for engine drivers and apprentices, with a very wide programme.

Among schools founded by employers, perhaps the most important is that established in 1919 by the Engineering and Bridge-building Company (*Sitta ja konnerakonnusosakeyhtiö*). The instruction given in this institution, which is reserved for the Company's employees, includes theoretical study of vocational and social questions. There is also a boarding-house capable of accommodating half the total number of pupils. Further, with the assistance of gifts from the various Finnish employers' associations, the employers have set up an establishment for the development of vocational education, which is subsidised by the state, the municipalities, and by various societies and individuals. It organises classes, lectures, and travelling exhibitions, and opens technical libraries and reading-rooms.

The object of the State Social Welfare Museum (*Valtion Työväensuojelus-ja huoltonäyttely*) is to interest workers in social problems and to furnish them with information on such questions. There are three main sections in the exhibition : (1) safety measures for the prevention of industrial accidents and occupational diseases ; (2) public health and occupational hygiene ; (3) social service.

Among institutions for utilitarian purposes or recreation should be mentioned the young people's societies which have been established in the densely populated industrial centres, and even in rural districts. For the most part, these societies have their own buildings, where they hold their meetings, which consist generally of lectures followed by debates, singing, games, and dances. These institutions are encouraged by the Association of Finnish Young People's Societies (*Suomen Nuorisoseurojen Liitto*) and the Finnish Social-Democratic Young People's Association (*Suomen Socialdemokraatinen Nuorisoliitto*).

Sport

The workers' taste for sport has developed mainly since the war, and, if their own statements are to be believed, this growth

of interest has not been unconnected with the reduction of hours of work.

Among the societies which work for the physical development of the workers, mention should first be made of the Workers Athletic Association (*Työväen Urheiluliitto*), which enrols both men and women members. According to its last annual report, the Association included 397 societies with 25,360 adult members, and about 3,500 boys and girls under 16 years of age ; the total number of members is thus 28,860. The Association has several sections : gymnastics for men and women respectively, winter and summer sports, womens' sports, swimming, football, wrestling, boxing, general women's section, and young people's section. During the year it organised four-week training courses for gymnastic instructors, classes in games and sports, and training courses for boxing and swimming instructors.

Besides the women's section of this Association, which has 45,000 members, there is a society for physical culture for women (*Suomen Naisten Liikuntokasvatusliitto*). This society, which has 4,200 members, organises gymnastics, games, and swimming classes in the summer. About one-third of its members endeavour to instruct women workers in physical culture and to teach them to devote their leisure time to occupations which strengthen the body and refresh the mind.

An establishment called the " Varala " has been set up near Tampere, the biggest industrial centre in Finland, by the Tampere Women's Physical Culture Company (*Tampereen Neisvoimistelutalo-Osakeyhtiö*). It organises special gymnastic courses ; the women swim there, play games, and in winter they ski. Almost every year the Tampere factories organise holiday camps at the " Varala " at their own expense, for the daughters of their women workers. There is also near Viipuri a similar gymnastic institution called the " Tanhuvaara ", founded by the Women's Physical Culture Company (*Karjalan Naisvoimistelutalo*).

Besides these associations, many local societies have sprung up for gymnastics, swimming, boating, and skiing, and some at least of the members of all these societies are workers. Generally speaking, the workers show a very decided taste for sports and open-air life. To encourage this, the municipalities have laid out sports grounds, swimming baths, skating rinks, and ski and luge runs, and have also made grants in aid of national and international sport competitions.

Many manufacturers have encouraged sports by allowing their

workers the free use of gymnastic halls, by appointing and paying physical culture instructors, and by organising competitions with the object of interesting their workers in various sports and developing the spirit of emulation.

Finally, for the physical education of the young, some of the trade unions have appointed technical advisers whose work is to supervise the athletic societies and to encourage a taste for open-air games among young people.

Housing, Allotments, and Home Industry

The housing shortage and the difficulty of maintaining the food supply during the war have encouraged the development of building and allotments. In this connection mention should be made of the part played by the Agricultural Association of Finnish Sawmill Companies (*Suomen Sahanomistajain Maanviljelys-yhdistys*), which includes the most important sawmills, paper mills, and wood works in the country. The Association pays special agents to instruct the workers in building, gardening, and domestic economy. Their work is chiefly to organise classes, discussions, and excursions for agriculturalists, and horticultural competitions and exhibitions.

Many industrial centres have created workers' allotments, generally about one are [1] in area. The expenses of preparing the soil, manuring and irrigation are borne by the undertaking. In the case of the larger allotments, the factories also supply the necessary implements. In order to give some idea of the efforts of employers in organising workers' allotments, it may be pointed out that, in the grounds belonging to the Kymi factory, about 30 hectares of land have been given up to potato cultivation and divided into about 900 allotments. This work has cost about 2,260,000 Finnish marks in the last two years.

This policy of the factories has been crowned with success; in the year 1921 the number of workers' gardens was 9,327. To encourage the development of such gardens, general and local exhibitions have been organised and prizes awarded to the owners of the best-kept gardens. When during the war the towns were threatened with famine, they divided up municipal land in the vicinity as allotments for any of the town dwellers

[1] 119.6 square yards.

who wished to cultivate them. When the situation became normal again, the municipalities continued to let out allotments for the cultivation of potatoes. Similarly, some employers gave their workers allotments on which to cultivate potatoes or other vegetables.

With a view to meeting the building crisis and enabling workers to spend their leisure time in pleasant conditions, the state has endeavoured to improve housing conditions; thus, between 1920 and 1923, it made grants amounting to 70,000,000 Finnish marks for the encouragement of public utility building. These credits were divided between 29 municipalities, 25 urban and 4 rural. Thanks to these grants, it has been possible to build 9,723 workers' houses. The efforts of the employers on behalf of their own workers also deserve mention. About 33 per cent. of workers live in houses supplied by the factories themselves. More recently the employers have had a considerable number of houses built, so that the percentage must now be 35.

Recent housing schemes take account of the desirability, not only of supplying the worker with a roof over his head, but also of making his home as comfortable and pleasant as possible. In the provinces, especially in the industrial centres, one-storey buildings have been constructed containing 2, 4 or 6 separate flats. These flats generally consist of a room and a kitchen, with cupboards and an attic. Each flat has its own entrance and in most cases the yard is divided between the tenants by a fence or hedge. There are also a large number of flats with two rooms and a kitchen, in which one of the rooms is apart from the others, so that workers on night shifts may move about without waking the other tenants. The front of the houses is generally satisfactory from an architectural point of view; at the back is a small kitchen-garden of which the tenants have the use.

Further, a certain number of factories have had plans drawn up by architects for systematic construction, under proper conditions, of parks, sports grounds, workers' clubs, etc.

The movement for a " a home for everyone " has been particularly encouraged in many industrial circles, where employers have supplied land and the necessary materials on very easy terms and have also granted loans or opened credits on behalf of their workers. Finally, the Martha Association (*Martta Yhdistys*), which for several decades has been of importance as an advisory body both in the country and in town, has, among its other activities, considered the improvement of housing and the development of allotments.

The associations for the encouragement of home work are endeavouring to improve the economic situation of the small peasants and workers. For the spread of this form of industry, about a hundred schools for men and women have been set up. These associations receive regular subsidies from the state, and also special grants for the organisation of exhibitions and the appointment of technical advisers. These advisers organise cooking and gardening courses, etc., and also deal with the improvement of workers' housing.

Many factories have engaged one or more welfare workers, who give advice and nurse the sick. They receive working women at fixed hours and visit them in their homes for the purpose of instructing them how to bring up their children. Two of the most important factories in the country have between them appointed a director to supervise the execution of protective and health measures for home and factory workers, and to organise social work in general.

Although the state has not directly taken the initiative in such matters, it has nevertheless made large grants to encourage the work of public utility societies. The budget of 1924 contains credits of 850,000 Finnish marks for state libraries, 600,000 marks for gymnastic and sports societies, 700,000 marks for workers' institutes and free schools, 331,000 for various propaganda societies, 150,000 marks for study circles, 1,870,000 marks for domestic schools and other courses, and 2,255,000 marks for dramatic societies, young people's associations, and brass bands. The municipalities have generally confined themselves to taking steps for the encouragement of sports and gardening.

Many towns run workers' and school gardens ; a large number have also laid out sports grounds, which in the largest towns are scattered in different quarters. They have also endeavoured to encourage winter sports directly by laying out skating rinks and luge runs, and by subsidising winter sports societies. For example, the budget of the town of Helsingfors for 1921 contains a credit of 80,000 marks for this purpose. As regards summer sports, almost all the towns have built swimming baths. In the large towns there are special sports committees, which see to the upkeep of the town sports grounds and swimming baths, allot them to the various sports societies, and propose measures to encourage open-air games.

This brief survey shows that the utilisation of leisure has been

facilitated in Finland by the three-fold effort of the workers themselves, the employers, and the state and municipalities. The workers have been very anxious to employ their leisure time in an intelligent fashion. They have themselves founded various institutions and associations for the encouragement of temperance and for physical culture (e. g. workers' sports associations), for their education (e. g. workers' institutes and associations for workers' education), and also for their artistic education (e. g. Finnish Workers' Theatres Association). At the same time they have never remained purely passive in view of the facilities afforded by the employers or by the state and municipalities, but have hastened to profit by them. On their side, the employers, although they did not all support the principle of the 8-hour day, have nevertheless in general encouraged the workers to profit by the leisure which the new Act has given them, and have encouraged the activities of sports societies, dramatic societies, libraries, etc., either by financial aid or by other suitable measures. Finally, while the state authorities have not always taken any direct initiative they have given large grants in aid of the work of public utility societies.

REPORTS AND ENQUIRIES

National Health Insurance in England from 1918 to 1923

National Health Insurance in England has never yet been tried under conditions which can be called normal since it was instituted in 1912. Sickness benefit became payable in January 1913 and disablement benefit only in July 1914. Thus the system had scarcely come into full operation when war broke out. The war caused the experience of the societies in respect of claims for benefit to be very abnormal. Since the war the effect of the industrial depression has been strongly felt, not only in unemployment insurance but in health insurance. The history of the system up to the present has therefore been such as to render it impossible to draw definite conclusions as to its working under normal conditions.

The following survey is intended to cover the post-war period of the operation of the health insurance system. The main economic phenomena of this period, namely, the increased cost of living, and then depression causing severe unemployment, have been reflected in the legislative changes. Considerable modifications in the insurance mechanism have, however, been made in the light of the experience of administration independently of these factors.

The Act of 1911

It will be convenient to recall the principal features of the National Health Insurance Act, 1911, Part I, which introduced health insurance into the United Kingdom [1]. The Act provides for a compulsory scheme of insurance against loss of health and for the prevention and cure of sickness for all employed persons between the ages of 16 and 70, with certain exceptions, of which the principal are non-manual workers whose annual remuneration exceeds £160 (now £250).

The benefits consist of cash benefits (sickness, disablement, and maternity) and medical benefit. Sickness benefit consists of a weekly

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[1] Sources : *1st, 2nd, 3rd and 4th Annual Reports of the Ministry of Health ; Annual Reports of the Chief Medical Officer of Health, 1919-1923 ; Report by the Government Actuary on the Valuations of the Assets and Liabilities of Approved Societies, 1922.* London, H. M. Stationery Office.

[2] In 1922 the system of health insurance in the Irish Free State was entirely severed from the system operating in Great Britain and Northern Ireland. Insurance in England, Wales, Scotland, and Northern Ireland respectively is organised in separate but similar systems under the Insurance Acts, which apply to all parts of the United Kingdom.

payment of 10s. (now 15s) for men and 7s. 6d. (now 12s.) for women, during 26 weeks. On the expiration of 26 weeks, disablement benefit is payable at the rate of 5s. (now 7s. 6d.) for both men and women for the duration of disablement. Maternity benefit consists of a payment of 30s. (now 40s.) in respect of the confinement of the insured person's wife and of a like sum in addition to the wife herself, if she is an insured person. Medical benefit consists of treatment by a medical practitioner of ordinary skill and the provision of medicine.

The administration of cash benefits is carried out by approved societies. The latter are friendly and mutual aid societies which were for the most part already in existence in 1911. In order to be allowed to undertake state insurance, they have to receive state approval. All insured persons, with the insignificant exception of deposit contributors (see below), are members of approved societies. The administration of medical benefit is entrusted to insurance committees in each county; these consist of representatives of insured persons, medical practitioners, and the state. The committees arrange with local medical practitioners to provide medical attendance for insured persons in the area of the county. Medical practitioners are remunerated at a certain capitation fee which is identical throughout Great Britain.

The cost of benefits and of local administration is borne by the worker, the employer, and the state, in fixed proportions. The cost of central administration is borne by the state. Contributions of workers and employers are paid into the several National Health Insurance Funds in England, Wales, and Scotland. The approved societies and insurance committees draw out from the funds the amounts expended on benefits, including the state's share, namely, two-ninths of the cost of men's benefits, and one-fourth of that of women's (now two-ninths in both cases).

Six Acts modifying the principal Act of 1911 have been passed during the period under consideration: the intention of these Acts may be briefly summarised. The Act of 1918 concerned principally the financial arrangements and women's benefits, but it contained many other important provisions; the Act of 1919 raised the maximum annual income limit; the Act of 1920 increased rates of contribution and benefits; the first Act of 1921 made slight modifications in the financial system, and the second Act introduced special measures to deal with the unemployment situation; finally, the object of the Act of 1922 was to reduce the share of the cost of insurance borne by the taxpayer. Mention must also be made of an Act of 1919 which constituted the Ministry of Health and transferred thereto the central administration of the Insurance Acts.

Changes in Benefits and Contributions

Before describing the temporary measures taken to adapt the insurance scheme to the temporary conditions of the post-war economic depression, it is necessary to consider other changes in legislation, effected mainly by the Act of 1918, which were intended to be of a per-

manent character as remedying defects discovered by experience of the operation of the Act of 1911 ; these changes proved to be the starting point of the temporary measures.

The Free Year's Insurance

The Act of 1918 made new provisions with regard to the termination of insurance and membership. An insured person who ceases to be employed remains entitled to all the benefits for a year after the end of the week in which employment ceased. Under the Act of 1920 the member remains entitled in addition to medical benefit until the expiration of the half-year in which he ceases to be insured.

In calculating the year of unemployment, no account is taken of any period of incapacity during which the member has been in receipt of sickness or disablement benefit.

When the year of unemployment has expired his insurance terminates and he ceases to be a member of the society. When a person has ceased to be insured, he is, on again becoming employed, treated as though he was becoming insured for the first time.

Benefits of Married Women

The Act of 1918 entirely altered the conditions under which benefits are paid to married women. The original system which required the woman to prove to her society that she continued to be employed after marriage had turned out difficult to work. Under the new arrangements a married woman who does not become unemployed for eight consecutive weeks within a year of her marriage continues to be entitled to the ordinary benefits ; where, therefore, a woman continues to work for more than a year after marriage without eight consecutive weeks of unemployment, she is treated as an ordinary insured person on subsequently leaving employment. On the other hand, a woman member of a society who is employed up to the date of her marriage ceases to be entitled to the ordinary benefits as soon as she has been unemployed (otherwise than by reason of illness) for eight consecutive weeks within a year after her marriage. She then, however, becomes entitled to special reduced benefits which are as follows :

(1) Sickness benefit (the Act of 1920 added disablement benefit) at the rate of 5s. (raised to 7s. 6d. by the Act of 1920) per week for not more than six weeks in all during the 12 months commencing on the expiration of the eight consecutive weeks of unemployment.

(2) Maternity benefit of 30s. (raised to 40s. by the Act of 1920) on her first confinement after the expiration of eight weeks'unemployment, provided that it occurs within two years after the date of her marriage. This benefit is subject to reduction in case the member is in arrears with her contributions.

(3) Medical benefit and sanatorium benefit (the latter abolished by the Act of 1920) until the end of the calendar year next following that in which the eight weeks of unemployment ended (but

now, under the Act of 1920, until the expiration of 12 months from the end of the half-year in which the eight weeks of unemployment ended).

If a married woman who has become entitled to the above special benefits returns to employment, she is treated as if she were entering insurance for the first time. If, however, she returns to employment within two years of marriage she remains, during the waiting periods for benefit in respect of her new insurance, insured for the special benefits as though she had not resumed employment.

Waiting Periods

The Act of 1918 reduced the sickness benefits in the case of persons who have not completed the waiting period of 104 weeks and paid 104 contributions from 10s. a week for men and 7s. 6d. for women to 6s. and 5s. respectively (it is to be noted, however, that all cash benefits were increased in 1920). To be entitled to the smaller benefit a waiting period of 26 weeks must have been completed and 26 contributions paid. Full sickness benefit thus requires the same waiting period as disablement benefit, namely, 104 weeks.

The same Act lengthened the waiting period in respect of maternity benefit from 26 to 42 weeks after entry into insurance.

Arrears

The provisions of the Act of 1911 with regard to arrears of contributions were modified by the Act of 1913; the relevant provisions of the latter Act were in turn repealed by that of 1918.

The Act of 1918 provides that there shall be no suspension from medical benefit and sanatorium benefit (abolished in 1920) as long as the person remains in insurance. A member is only considered to be in arrears when his contributions fall short of 48; full benefits are payable if not less than 48 contributions have been credited for the contribution year. Arrears for any contribution year (which runs from the beginning of July to the end of June) affect benefits during the ensuing benefit year, which begins in the following January. The three months from the end of June to the end of October are the period of grace during which arrears can be paid up. If they are not then paid up, sickness and disablement benefits are reduced during the following benefit year in proportion to the amount of the arrears.

Measures arising out of the Increase in the Cost of Living

In order to prevent large numbers of persons passing out of insurance by reason of the rise in the general level of wages, the maximum annual income limit was raised by the Act of 1919 from £160 to £250. It was found also that the scale of cash benefits considered adequate in 1911 was altogether too low in view of the higher cost of living, and

consequently it was raised 50 per cent. by the Act of 1920, contributions being correspondingly increased.

The new rates of weekly benefit compared with the old rates are as follows:

	Men		Women	
	Old rate	New rate	Old rate	New rate
	s. d.	s. d.	s. d.	s. d.
Ordinary rate of sickness benefit	10 0	15 0	7 6	12 0
Sickness benefit until lapse of 104 weeks' waiting period and payment of 104 contributions	6 0	9 0	5 0	7 6
Disablement benefit	5 0	7 6	5 0	7 6
Maternity benefit	30 0	40 0	30 0	40 0

The new rates of weekly contribution, compared with the old, are as follows:

	Old rates			New rates		
	Employed contributor	Employer	Total	Employed contributor	Employer	Total
	d.	d.	d.	d.	d.	d.
Men	4	3	7	5	5	10
Women	3	3	6	4	5	9

By the Act of 1920 rates of contribution of low-paid wage earners were also revised, and the contribution of a penny in certain cases by the Exchequer was discontinued. The rates of contribution for wage earners over 18 years of age whose remuneration does not exceed 4s. a day are as follows:

(1) Where the rate of remuneration does not exceed 3s. a working day,

to be paid by the employer { men, 10d. a week, women, 9d. a week.

(2) Where the rate of the remuneration exceeds 3s. but does not exceed 4s. a working day,

to be paid by the employer, 6d. a week,

to be paid by the contributor { men, 4d. a week, women, 3d. a week.

Measures arising out of the Unemployment Crisis

In 1921 it was found that, in spite of the free year, many persons would pass out of insurance owing to continued unemployment. The Prolongation of Insurance Act of 1921 was therefore passed as a temporary measure to mitigate this evil. It provided that persons should not cease to be insured through their inability to find work, even if they remained unemployed for more than 12 months. To qualify for this advantage, however, persons must have had at least 80 contributions to their credit for the two years ending 4 July 1920; or, if they had not entered insurance as much as two years previous to 4 July 1920, then they must have had to their credit contributions in respect of at least three-quarters of the number of weeks elapsing

between their entry into insurance and 31 December 1920, or the date when they became unemployed. They must further not have become unemployed through their having taken up an occupation not covered by the Insurance Acts. The reason for these conditions was that it was desired to assist only the genuine unemployed. This Act prolonged the insurance of persons fulfilling the conditions mentioned until the end of 1922. As unemployment has remained since at a high level, it has been found necessary to keep this measure in force until the end of 1923; the original qualifying conditions have, however, been maintained without alteration. Likewise, the provisions of the Act of 1918 concerning the cessation of the ordinary insurance of married women after eight weeks of unemployment are suspended by the Prolongation of Insurance Act of 1921, provided that such unemployment is involuntary.

By the end of the contribution year 1921 (3 July) there was, on account of unemployment, an abnormal proportion of persons in arrears. To cope with this situation two measures were taken: (*a*) the period of grace during which arrears could be paid up was extended by a month until 30 November; (*b*) twelve contributions were allowed to count as 26 for the contribution year in question.

In November 1921, however, it was found that even these measures were insufficient and that a great number of persons had few or no contributions to their credit in the previous contribution year. A regulation was therefore made to the effect that persons who had less than 26 contributions to their credit should be treated as if they had, in fact, that number to their credit. Such persons therefore became entitled during the ensuing benefit year 1922 to reduced cash benefits, maternity benefit in full, and any additional benefits provided by their societies. The above advantages were, however, extended only to persons who had complied with the conditions regarding the payment of contributions specified in the Prolongation of Insurance Act of 1921; thus only persons who were insured prior to 1 January 1921 were affected.

Financial Changes

Approved Society Finance

The National Health Insurance Act, 1918, embodied the main recommendations of the Departmental Committee on Approved Society Finance and Administration, which reported in 1916. The first part of the Act was designed to strengthen the financial position of approved societies by means of (1) the provision of additional money out of funds voted by Parliament; and (2) the increase of the funds available for the provision of benefits by the reduction of the sums retained out of contributions for the redemption of reserve values[1].

[1] Some explanation is required of the term 'reserve values'. The principal Act of 1911 provided that approved societies might not refuse to admit to membership any applicant solely on the ground of his age. Now sickness becomes more frequent with increase of age, and the larger the number of middle-aged

The main directions in which experience had shown financial adjustment to be necessary were : (1) the provision of further money for the payment of the sickness benefit of women members, particularly married women ; (2) the formation of Contingencies Funds for all societies to serve as protective funds against deficiencies on valuation ; and (3) the establishment of a Central Fund to meet deficiencies remaining after the Contingencies Funds have been absorbed in any cases where the deficiency is attributable to abnormal sickness claims arising from the extra risks of occupation, unhealthy environment, etc., or is due to other special causes beyond the control of the society.

Out of each weekly contribution paid in respect of a woman member, $4\frac{1}{2}$d. had hitherto been credited to the Benefit Fund of her society, while $1\frac{1}{2}$d. had been paid into the Sinking Fund for the redemption of reserve values. The Act altered these proportions, and, in order to provide for the excess of sickness claims among women, which was found to be general, allowed the Benefit Fund $4\frac{5}{6}$d. and retained $1\frac{1}{6}$d. for the Sinking Fund and other purposes.

To recognise the special excess of claims which was found to prevail among married women, it was provided that there should be set up a fund called the Women's Equalisation Fund, the money for which was to be found by the National Exchequer. The fund, which amounted to £280,000, was distributed each year among societies having women members in accordance with a scheme which took into consideration both the general excess of claims among married women and the claims associated with pregnancy, of both married and unmarried women. The fund, however, was abolished in 1922.

From the Sinking Fund contributions ($1\frac{5}{9}$d. per week for men and $1\frac{1}{6}$d. for women) there was taken $\frac{4}{9}$d. in the case of men and $\frac{1}{3}$d. in the case of women, and of the total amount so taken at least seven-eighths was to be applied to constituting for each society a new fund called the Contingencies Fund ; the remaining one-eighth (or less) is applied to another new fund called the Central Fund. The Contingencies Fund is used to meet any deficiency in the society's funds which

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persons belonging to a society the heavier are its liabilities. Contributions are, however, the same for persons of all ages. The contributions of employers and workers (7d. in 1911) are calculated to be sufficient to pay the benefits of a person entering insurance at 16 years of age. In order that a society should not be prejudiced through its admission of middle-aged persons, there is credited by the state to the society in respect of each member a sum called his 'reserve value' estimated to be equivalent to the extra liability entailed by his age. From each contribution two-ninths (in 1911) is applied to a sinking fund for writing off the sums thus credited. Thus (to consider the position under the Act of 1911) out of each contribution of 7d. from worker and employer, $1\frac{5}{9}$d. was applied to redeeming reserve values, but at the same time the state contributed two-ninths of the cost of benefits and administration, i.e. two-ninths of 7d. or $1\frac{5}{9}$d. In this way the person entering insurance at 16 obtains the full value of his contribution in the form of benefits, while persons over that age benefit from the state's contribution in proportion to the heavier risks entailed by their age. It was originally estimated that reserve values would have been fully redeemed about 1930, but owing to the diversion of money from the sinking fund to the Central and Contingencies Funds under the Act of 1918 and subsequent Acts redemption will be delayed until about 1955.

may be disclosed on valuation. Any balance remaining, or the whole fund if there is no deficiency, is carried to the society's Benefit Fund, where it will be available for the provision of additional benefits after the next valuation, if no deficiency is then disclosed. As the Contingencies Fund is expended on benefits, either retrospectively in meeting a deficiency, or in the future in providing additional benefits, it is automatically supplemented by the state's contribution.

Where a society with branches is concerned, a single contingencies fund is formed for the whole society, and out of it is made good any deficiency of a branch not due to maladministration. The balance is distributed to the branches in proportions corresponding to the amounts paid into the fund by each of them ; the share of a branch in deficiency is, however, reduced to the extent by which that deficiency has been made good from the fund.

As already stated, a second new fund, called the Central Fund, was also created with one-eighth of the money diverted from the Sinking Fund. This Fund is common to the several parts of Great Britain. Its purpose is to meet the residue of any deficiencies remaining over after the Contingencies Funds available have been exhausted. Assistance will, however, only be given when the deficiency is due to circumstances over which the society has no control. The Fund receives a grant from the Exchequer of £150,000 a year. If less than one-eighth of the money diverted from the Sinking Fund is required to keep the Central Fund solvent, the balance will be credited to the societies as part of their Contingencies Fund.

The Acts of 1920 and 1921 modified both the proportion of the contribution to be devoted to the Sinking, Contingencies, and Central Funds as a whole, and the share of that proportion to be devoted to each of them. The considerable increase in 1920 in the total amount devoted to these funds is to be explained by the fact that benefits, and therefore reserve values, were considerably increased ; contributions were likewise increased, men's from 7d. to 10d. and women's from 6d. to 9d. The following table shows these changes.

AMOUNTS FROM EACH CONTRIBUTION DEVOTED TO THE SINKING, CONTINGENCIES, AND CENTRAL FUNDS

Act	Total		Sinking Fund		Contingencies Fund		Central Fund	
	Men	Women	Men	Women	Men	Women	Men	Women
	d.	d.	d.	d.	d.	d.	d.	d.
1911	$1\frac{5}{9}$	$1\frac{1}{2}$	$1\frac{5}{9}$	$1\frac{1}{2}$				
1918	$1\frac{5}{9}$	$1\frac{1}{6}$	$1\frac{1}{9}$	$\frac{5}{6}$	$\frac{7}{18}$	$\frac{7}{24}$	$\frac{1}{18}$	$\frac{1}{24}$
1920	$2\frac{1}{3}$	$1\frac{11}{12}$	$1\frac{2}{3}$	$\frac{7}{12}$	$\frac{7}{12}$	$\frac{7}{16}$	$\frac{1}{12}$	$\frac{1}{16}$
1921	$2\frac{2}{9}$	$1\frac{4}{5}$	$1\frac{2}{3}$	$1\frac{2}{5}$	$\frac{35}{72}$	$\frac{7}{20}$	$\frac{5}{72}$	$\frac{1}{20}$

Reduction of Exchequer Contributions

During the period under review a number of measures have been taken to reduce the share of the cost of health insurance borne by the Exchequer.

The principal Act of 1911 had provided that the Exchequer should contribute two-ninths of the costs of men's benefits and one-fourth of the costs of women's benefits, and like proportions of the cost of administration of the same. The Act of 1920, however, reduced the Exchequer's share of the cost of women's benefits and their administration to two-ninths.

The Act of 1913 enabled the Exchequer to contribute sums additional to the statutory proportion specified in the principal Act. These additional grants became very considerable, especially since the whole excess of the cost of medical benefit over 6s. 6d. per insured person was met from this source. Already before the war the cost of medical benefit was 9s. per insured person, of which about 7s. 3d. was remuneration of medical practitioners and about 1s. 9d. was cost of drugs. In 1918 and 1919 cost-of-living bonuses had to be paid to the practitioners and in 1920 the capitation fee was raised to 11s., at which figure it remained until the end of 1921. It was then reduced to 9s. 6d., and again to 9s. as from the beginning of 1924; at this latter figure it will remain for three years. Meanwhile the Act of 1920 increased from 6s. 6d. to 9s. 6d. the part of the cost to be met out of insurance funds in the statutory proportions. In 1920 the cost of medical benefit was about £8¼ million, of which £7¼ million was remuneration of medical practitioners and £1¼ million was cost of drugs. Of the total, representing roughly 13s. per insured person, about two-thirds was defrayed by the approved societies as to seven-ninths and by the Exchequer as to two-ninths; the excess of about one-third was met by an additional Exchequer grant. The Exchequer was relieved of the whole of this excess by the Act of 1922, which raised the sum payable per head by the societies and the Exchequer in the statutory proportions in respect of medical benefit from 9s. 6d. to a maximum of about 12s. This, with an insured population of 12,500,000, was sufficient to meet the excess, since in 1922 the cost of medical benefit had fallen nearly a million owing to the decrease in the capitation fee.

The arrangement by which the excess was defrayed by the societies and the Exchequer in the statuory proportions out of benefit funds lasted until the end of 1923. As from the beginning of 1924 a Government Bill, which passed its second reading on 31 March, 1924, makes provision for meeting the excess without reducing the benefit funds of the societies. The provisions of the Bill would remain in force until the end of 1926, by which time it is thought that the Royal Commission now being appointed to investigate national insurance will have reported. The total cost of medical benefit in England will be 11s. 10¾d. per person; the difference between that sum and the 9s. 6d. fixed by the Act of 1920 is to be met mainly out of the Central Fund and out of any

interest in excess of 4½ per cent. on that portion of benefit funds which is invested on behalf of societies by the Goverment.

Finally, the Act of 1922 abolished the Women's Equalisation Fund, the income of which was derived entirely from the Exchequer. The cost of this fund, which had been £280,000 under the Act of 1918, was increased to £350,000 by the Act of 1920. The necessary financial assistance to Societies in respect of the sickness claims of married women was thenceforth provided by means of an increase in the reserve values credited to societies in respect of their married women members.

The reports and accounts of national health insurance do not give a clear idea of the operation and changes in the financial system. It is, for example, very difficult to find out the distribution to various destinations of the total sum granted annually by Parliament. It appears, however, that the share of the cost borne by the Exchequer has been reduced from £9,691,000 in 1921 to £6,918,000 in 1922.

Position of Approved Societies

Number and Membership

The number of approved societies operating in England on 31 December 1921 was 1,136, of which 1,106 were centralised societies and 30 societies with branches. The corresponding figures two years previously were 1,258, 1,226 and 32. The reduction in the number of societies administering state insurance is to be explained by the tendency of small societies to transfer their state insurance engagements to larger societies with a view to securing more efficient administration.

The following table shows the membership of the various kinds of approved societies operating in England on 31 December 1920.

MEMBERSHIP OF APPROVED SOCIETIES, 31 DECEMBER 1920

Sex	Friendly societies (branches)	Friendly societies (centralised)	Industrial and collecting societies	Trade unions	Employers' provident funds	Total
Men	1,964,000	1,999,200	2,728,400	987,400	79,000	7,758,000
Women	634,200	814,600	2,556,100	197,950	24,150	4,227,000
Total	2,598,200	2,813,800	5,284,500	1,185,350	103,150	11,985,000

On 31 December 1922 the total number of insured persons in England who were members of approved societies was 12,100,000, of whom 7,950,000 were men and 4,150,000 were women ; the distribution by kinds of societies is not available.

Deposit contributors are insured persons who are not members of any society. Provision had to be made in the insurance scheme for persons who by the nature of their employment and the rate of their

wages were compulsorily insurable, but whom societies might not wish to accept because of poor health or for other reasons. Deposit contributors are entitled only to such benefits as the sum to their individual credit (i.e. the total contributions of themselves, their employers, and the state) will provide ; they are thus subjected to a scheme rather of subsidised saving than of insurance.

Their number has rapidly declined ; on 31 December 1919 it was 416,000, but this figure included many discharged soldiers who before long became members of societies. A year later the number had fallen to 350,000, and at the end of 1922 to 245,000 ; thus it is now below the 1914 level of 272,000.

The number of deposit contributors has been far less than was expected, and is still diminishing because most approved societies have ceased to make the satisfactory passing of a medical examination a condition of admission.

The following table shows the sums actually expended in sickness and disablement benefit by approved societies in England and Wales during the years 1920, 1921, and 1922. Figures for previous years are available, but are not given here because they are not readily comparable for a number of reasons.

SUMS EXPENDED IN BENEFITS, 1920, 1921, AND 1922

Year	Sickness benefit		Disablement benefit	
	Men	Women	Men	Women
	£	£	£	£
1920	3,638,830	1,686,117	1,114,900	634,279
1921	4,810,470	2,271,662	1,669,985	981,746
1922	5,707,000	2,488,927	2,115,755	1,162,923

The total number of weeks represented by the sickness and disablement payments in 1922 may be estimated at 7¼ million weeks' sickness and 5¼ million weeks' disablement for men and 4 million weeks' sickness and 3 million weeks' disablement for women. These figures give a total of 19½ million weeks, or 375,000 years. Thus the equivalent of a year's work of 375,000 persons was lost to the nation during the year 1922.

Actuarial Valuation as at 31 December 1918

The National Insurance Act, 1911, as amended by the Act of 1918, provides that a valuation of the assets and liabilities of every approved society and of its branches shall be made every five years. If a surplus

is disclosed a society may be allowed to distribute it to its members in the form of additional benefits; if, on the contrary, a deficiency has been incurred it must be made good either out of reserves in the Contingencies Fund or, if these are not sufficient, by a compulsory levy on the members, or by a reduction in ordinary benefits.

It was decided to carry out the first valuation as soon as possible after the Armistice. Accordingly a valuation was begun of all approved societies as they stood on 31 December 1918, and was completed about the middle of 1921. The surpluses disclosed were very considerable. The additional benefit schemes which could be financed out of the surpluses provided over twelve million persons in England with increased cash benefits or new services; of these nearly four millions had their cash benefits increased, over four millions became entitled to new services, and nearly four and a half millions became eligible for advantages of both kinds.

RESULTS OF VALUATION OF ENGLISH AND INTERNATIONAL[1] SOCIETIES

Societies	Number of valuations (societies and branches)	Number of members	Total amount of surplus	Average surplus per member
Valuations showing surplus				
			£	£
English	8,240	3,918,866	4,944,520	1.26
International	198	9,830,244	10,341,564	1.05
Total	8,438	13,749,110	15,286,084	1.11
Valuations showing deficiency				
English	304	212,599	63,782	0.30
International	3	57,201	3,042	0.05
Total	307	269,800	66,828	0.25

The general position disclosed was thus extremely satisfactory. In only a small percentage of cases was there no surplus available for the provision of additional benefits. Deficiencies were found in only a very few societies, and were in almost all cases covered by the reserves of these societies in the Contingencies Fund.

The conditions which prevailed during the war greatly affected the finance of National Health Insurance, and the surpluses were largely due to this cause. Among the various factors in the production of this

[1] I. e. societies operating in the several parts of the United Kingdom, but having common funds, and the great majority of their members in England.

surplus are the fall in the claims in respect of sickness and maternity, better administration, the rise in the rate of interest on accumulated funds, and the reduction in liabilities brought about by war mortality. Only the fall in sickness claims needs explanation, the causation of the other phenomena being evident. It must first be noted that men serving in the Army were not entitled to sickness benefit, but instead were allowed the full value thereof under normal conditions in the shape of a reduction in contributions; thus these men (about 30 per cent. of the total male membership) contributed nothing to the fall in sickness claims. Among the civilian members, however, employment was abundant during the war years and wages were high. This improvement in economic conditions greatly favoured the decline in sickness, but does not account for the whole of it. There was another very interesting factor — "the universal 'will to work' which, under the stress of national necessity, dominated the civilian population during the years in which the fate of the country hung in the balance. The temperamental element, which plays so large a part in controlling physical capacity, came fully into operation, and in the right direction."

Not the whole of surpluses could be distributed in the shape of additional benefits. The valuers considered it prudent to maintain a large reserve in view of the uncertainties of the post-war situation. As a matter of fact unemployment is causing heavy losses of contributions, and will doubtless have unfavourable reactions on health. Thus only 55 per cent. of the total surplus, or £9 million, was actually made available for the provision of additional benefits.

Additional Benefits

On the basis of their valuation reports the various societies prepared schemes for utilising the disposable surplus for the provision of additional benefits. The valuation was completed in time for almost all societies to put their schemes into operation on 4 July 1921. The schemes remain in force for five years. They provide increased benefits for more than 12,000,000 insured persons; about one million members of societies having no disposable surplus continue to receive the ordinary benefits only. It is to be observed that new members who enter a society during the currency of its scheme are not entitled to additional benefits.

The schemes are devised by the societies themselves but must be sanctioned by the Ministry of Health before they can be put into practice. The additional benefits, any one or more of which may be selected according to the society's circumstances, fall into two main groups: (1) increases in sickness benefit and other cash benefits, and (2) payment for various forms of remedial treatment or other non-cash benefits. The following table shows the numbers of the different types of schemes that have been adopted by societies and their branches, and their membership as at 31 December 1918.

SCHEMES FOR ADDITIONAL BENEFITS ADOPTED, 31 DECEMBER 1918

Nature of scheme	Number of schemes	Total membership
Increase in cash benefits only	5,393	3,896,258
Increase in cash benefits and provision of other benefits	1,065	4,392,461
Provision only of benefits other than increases in cash benefits	147	4,112,298
Total	6,605	12,401,017

It will be observed from the above table that a large proportion of societies and branches have limited their schemes to increases in the ordinary cash benefits. These increases range from 1s. to 5s. per week in respect of sickness benefit; from 6d. to 2s. 6d. per week in respect of disablement benefit; and from 2s. to 10s. in respect of maternity benefit. Thus, the total rate of sickness benefit as increased may vary from 16s. to 20s. a week for men, and from 13s. to 17s. a week for women; the rate of disablement benefit from 8s. to 10s. per week and maternity benefit from 42s. to 50s.

The different kinds of additional benefits provided by the 1,212 schemes which incorporate non-cash benefits are shown in the following table.

ADDITIONAL BENEFITS GRANTED BY SCHEMES ADOPTED

Nature of benefit	Number of schemes	Membership benefiting	Annual amount available for benefit
			£
Dental treatment	534	6,868,067	148,494
Convalescence allowances	21	56,194	1,612
Leasing convalescent homes	3	52,376	18,182
Payments in want or distress	38	2,424,187	12,813
Payments on account of infection	4	66,354	435
Repayment of contributions	8	26,799	7,730
Payments to hospitals or convalescent homes	973	7,769,634	293,930
Surgical appliances	321	5,810,954	49,337
Optical treatment	415	5,749,345	31,817
Provision of nurses	269	6,162,949	62,277

With reference to the above table it should be noted that the Act of 1920 extended the list of additional benefits which approved societies were permitted to provide. Payments for institutional treatment, surgical appliances, optical treatment, and nursing were added. On the other hand, sanatorium benefit, which was one of the ordinary benefits, was abolished and the treatment of tuberculosis was transferred to the local authorities, since it was considered that such treatment should be provided alike for the insured and the uninsured population.

Work of the Departmental Employment Exchange of the Seine

The report on the working of the Departmental Employment Exchange and Labour Statistics Office and the organisation of unemployment relief in the Department of the Seine during 1922[1], which was presented to the General Council of the Department by Messrs. Henri Sellier and Emile Deslandres, confirms the impression already produced by previous reports that a rapid development in this domain has taken place.

The Departmental Employment Exchange, which was instituted by a Prefectoral Order of 17 August 1915, has been working since 1 November of that year. It includes a general employment exchange, subdivided into sections for unskilled labourers, war disabled, domestic servants, male shop assistants, and metal workers, and also a number of trade offices managed by joint committees of representatives of the employers' and workers' organisations concerned. Ten of these joint industrial offices are at present in existence, dealing with the following occupations and trades: clothing, restaurants and cafés, hairdressers, cardboard and paper making, industrial and commercial technicians and employees, electricians, workers in butchers' and pork butchers' establishments, building, pastry cooks and confectioners, and theatrical workers.

During its first seven years from 1916 to 1922, the Departmental Employment Exchange received a total of 3,029,309 applications for employment, 1,424,360 notifications of situations vacant, and was successful in filling 948,671 vacancies. The following table gives the detailed figures for each year.

APPLICATIONS, VACANCIES, AND VACANCIES FILLED FROM 1916 TO 1922

Year	Applications	Vacancies	Vacancies filled
1916	53,536	40,155	16,276
1917	162,493	78,613	46,794
1918	268,348	128,848	99,620
1919	575,070	253,498	176,754
1920	630,345	317,217	208,560
1921	865,391	253,517	169,646
1922	467,285	349,364	230,626

[1] CONSEIL GÉNÉRAL DE LA SEINE. *Rapport au nom de la Commission mixte du travail et du chômage relatif au fonctionnement de l'Office départemental du placement et de la statistique du travail et à l'organisation des secours de chômage dans le département de la Seine pendant l'année 1922*, presented by Messrs. Henri SELLIER and Emile DESLANDRES. (Document No. 26.) Paris, 1923.

These figures show that the the unemployment crisis of 1921 resulted in a considerable increase in the number of applications for work and a corresponding decrease in the number of vacancies notified by employers and the number of vacancies filled. During 1922, however, the balance was amply restored ; not only did the absolute number of vacancies filled show a considerable increase, but the proportion of vacancies filled to the total number of applications for work and of vacancies notified was also high. This is shown by the following table, which demonstrates the increasing efficiency of the employment exchange system.

VACANCIES FILLED AS PERCENTAGE OF TOTAL APPLICATIONS FOR WORK AND OF VACANCIES FROM 1916 TO 1922

Year	Percentage of applications	Percentage of vacancies
1916	30.4	40.5
1917	28.7	59.5
1918	37.0	77.6
1919	30.7	69.7
1920	33.0	65.7
1921	19.6	66.9
1922	49.3	66.0

This shows that the Employment Exchange from 1916 to 1920 was successful in satisfying nearly one-third of the applications for employment ; during the crisis only one-fifth of the applicants were provided with work, but in 1922, on the other hand, the proportion rose to nearly one-half.

The proportion of employers with vacancies to fill who succeeded in finding the workers they needed through the Exchange is even more notable : two-fifths of the vacancies notified were satisfied in 1916, three-fifths in 1917, and nearly four-fifths in 1918. In 1919 a slight decrease in the proportion is to be noted ; only two-thirds of the offers of situations were satisfied. Since that date the position has remained fairly constant.

A glance at the work of the different sections shows that the office for restaurant and café workers had the highest figure (74,002) of situations filled in 1922, followed by the general employment department with 29,630 situations filled, the clothing industry department with 17,263, the hairdressers' department with 17,004, and the butchers' and pork butchers' department with 15,044.

The average cost of filling vacancies varied during the period under review as follows :

COST OF FILLING VACANCIES FROM 1916 TO 1922 (IN FRANCS)

Cost	1916	1917	1918	1919	1920	1921	1922
Total cost	62,801	111,160	246,891	548,747	903,000	1,187,984	1,161,932
Average cost per vacancy	3.86	2.37	2.47	3.10	4.33	7.00	5.03

Up to 1920 the average cost of filling a vacancy remained comparatively low, varying between 2 and 4 francs. During 1921, at the height of the industrial crisis, it increased to 7 francs, as the supervision of large numbers of unemployed entailed an increase of expenditure, whereas vacancies were rare, resulting necessarily in a decreased number of vacancies filled. In 1922 the average cost of filling a vacancy fell again to 5.03 francs.

In addition to the above-mentioned sections, the Departmental Employment Exchange co-operates with the Ministry of Labour in managing certain organisations of a more general character, such as the Foreign Labour Department and the Department for Auxiliary Administrative Staff. The Foreign Labour Department, which has branches at all the frontiers, found work for 5,188 persons, chiefly Italians and Poles, through its Paris office.

Finally, the activity of the Departmental Employment Exchange includes the supervision of unemployed in receipt of allowances from the unemployment fund. After the crisis of 1921, a considerable improvement occurred during 1922; the number of unemployed in receipt of relief in Paris, which amounted to 4,099 in January 1922, fell to 414 at the end of that year. In the suburbs of Paris the corresponding figures were 2,384 and 24 respectively. During the same period the amount of unemployment relief paid amounted to approximately three million francs, of which nearly two million were paid in Paris itself.

Protection of the Heads and Eyes of Industrial Workers

Accidents to the heads and especially the eyes of industrial workers are so frequent and serious that it is of special urgency to draw up very detailed regulations for protection. The United States Bureau of Standards has published a national safety code for the protection of the heads and eyes of industrial workers[1], which is the result of a detailed investigation carried out with the assistance of an advisory committee of some 20 experts representing the industries, insurance companies, government departments, and private associations concerned.

The number of industrial operations which are dangerous to the heads and eyes of workers is extremely large. Instead of drawing up a list which might be very incomplete, the Code endeavours to give a clear definition of certain kinds of work in which the risks are the same and which therefore require a specific method of protection. Any given operation may thus easily be classified in its proper group. The

[1] Department of Commerce, Bureau of Standards: National Safety Code for the Protection of Heads and Eyes of Industrial Workers. Washington, Govt. Printing Office. Second edition, 1923. 66 pp. 10 cents.

following classification of the kinds of protection required was adopted in order to allow of careful determination of the different kinds of safety appliances (examples of processes are given in brackets):

A. Protection against relatively large flying objects (chipping, caulking, and some riveting operations).

B. Protection from dust and small flying particles (metal grinding, some woodworking operations).

C. Protection against dust and wind (engine driving, motor driving, electric spot and butt welding where there is no exposure to radiant energy).

D. Protection against splashing metal (babbitting, filling of lead joints for cast iron pipes, dipping in hot metal baths, casting of hot metal if there is the possibility that water is present).

E. Protection against gases, fumes, and liquids (handling of acids and caustics, dipping in galvanising tanks).

F. Protection against an excessive amount of dust and small flying particles (sand blasting).

G. Protection against reflected light or glare (exposure to snow, reflected sunlight from roofs).

H. Protection against injurious radiant energy with a moderate reduction in intensity of the visible radiant energy (oxy-acetylene welding; open-hearth, bessemer, and crucible steel making; electric resistance welding).

I. Protection against injurious radiant energy with a large reduction of the visible radiant energy (electric arc welding).

Having thus given a classification of risks which is sufficiently detailed to cover all cases that may arise, the Code defines the different kinds of appliances to be used. These are:

(1) Goggles of three types: (*a*) goggles with rigid adjustable or non-adjustable bridge with side shields; (*b*) goggles with rigid adjustable or non-adjustable bridge without side shields; (*c*) goggles with a flexible frame shaped to fit the face.

(2) Face masks, protecting the eyes and all or part of the face.

(3) Helmets, covering the eyes, face, and all or part of the other parts of the head.

(4) Hoods, completely covering the head, neck, and part of the shoulders.

(5) Shields held in the hand or forming part of the machine.

This definition is followed by a series of rules concerning the kind or kinds of protection which may be allowed in each of the nine cases under consideration and the requirements they must satisfy. These requirements obviously vary very much. In some cases it is the strength of the frames and lenses of goggles which is of chief importance, in others strength is unnecessary, the only matter of importance being the reduction of luminous intensity. Some of the rules are mandatory, others simply take the form of a recommendation; but all are drawn up in great detail and lay down strictly all the factors to be taken into account. Thus, for the goggles to be used in operations classified in Group A, the Code gives detailed specifications of lenses (minimum dimensions and optical properties), frames, ear hooks, nose pieces, and side shields.

The goggles must be strong enough to withstand the test prescribed in a later rule.

If face masks are used, the material of which they may be made and maximum weight, etc. are indicated. If the lenses can be replaced it is stipulated that it should be possible to perform this operation without the use of special tools or intruments. The employer must replace damaged lenses or protectors on the application of the worker.

Rules concerning the sterilisation, supply, and replacement of protectors are next given. It is recommended that all the protectors supplied should be inspected periodically and that each employee should be given a sterilisable metal case for his goggles.

Considerable space is devoted to describing the different tests of the frames and lenses of protectors. Four very simple tests of the strength of frames of goggles are laid down, as well as a test for corrosion. The mechanical tests of samples of lenses are also quite simple. They can be made by the persons concerned, which is useful because the lenses need more supervision than the frames. The optical tests for lenses, on the other hand, are more complicated, and those for determining the isolating properties of the lenses used in operations classified in Groups H and I involve laboratory work. The object is to protect the eyes of the workers against ultra-violet rays[1]. The rules state that the lenses should not transmit more than a given percentage of radiant energy of any wave length less than 405 millimicrons. Although it is not possible for everybody to carry out this test, detailed suggestions for the experiments to be made are given.

The enumeration of the rules is followed by a discussion, occupying half the handbook, which gives the authors' reasons for them and is of much interest. The question of tests is again examined in detail, because it is justly considered of great importance. The basis of the classification of operations into the nine groups mentioned above is also discussed.

The Bureau of Standards intends to modify its regulations in accordance with the results of practical experience and it asks for criticisms and suggestions from the persons concerned with a view to issuing revised editions. Any future amendments will probably affect only secondary points, and the foundation laid by the Code as it stands will presumably remain more or less final in the present state of industry. There are, however, certain points on which experts are not agreed. In the case of protectors for persons with defective vision, some consider that the optical correction should be made in the goggles themselves, others that the goggles should be worn over the worker's ordinary spectacles. The subject of the ventilation of the hoods used for sand blasting has not yet been settled. The use of air under pressure has been criticised on the ground of its effect in lowering the temperature and so producing colds in the head. A system intended to secure the proper distribution of air and the proper air pressure to be used is therefore to receive further consideration.

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[1] Cf. INTERNATIONAL LABOUR OFFICE: *The Protection of Eyesight in Industry; Problems of Industrial Lighting*, pp. 79 *et seq.* and 95 *et seq.* Studies and Reports, Series F, No. 6. Geneva, 1923.

Safety Work in Great Britain in 1922

The chapter on safety in the report of the Chief Inspector of Factories and Workshops in Great Britain for 1922[1] comments first of all on the accidents recorded during the year. Attention is drawn to two very general errors. The first mistake is that of taking into consideration only the absolute number of accidents when drawing conclusions from the results observed from year to year. If a reliable comparison is to be made the different factors must be reduced to a common base, and severity and frequency rates must be substituted for the absolute figures so as to take into account the number of persons employed and of hours worked. Unfortunately such figures are seldom available, and only a few firms make an analysis of their accidents on a scientific basis. It is to be regretted that the importance of this matter is not more recognised. As things are at present a number of employers have but a vague idea of the extent of the accident problem even in their own works.

Secondly, it is often believed that all accidents are due to machinery and that therefore they may be automatically prevented by suitable safeguards. Statistics have clearly proved, however, that the number of accidents due to machinery represents rather less than one-third of the total, while past experience shows that even these cannot always be attributed to the absence or defective nature of safeguards. On the other hand, machinery accidents probably include the more serious cases, and as the Factory Acts are more particularly concerned with this class of accident they are given special attention by the inspectors.

Taken as a whole the prevention of accidents still constitutes the most important problem before the Factory Department. The difficulties met with are so many and various that a variety of methods of dealing with them is called for.

Methods of Prevention

The first and most urgent work of the inspectors when making their visits of inspection is to bring constant pressure to bear with a view to raising the general standard of safety and standardising the safeguards in the more important industries.

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[1] Great Britain. Home Office. *Annual Report of the Chief Inspector of Factories and Workshops for the Year 1922.* Cmd. 1920. London, H. M. Stationery Office, 1923. 153 pp. 5s. A general summary of the report has already been given (*International Labour Review*, Vol. VIII, No. 6, Dec. 1923, pp. 915 *et seq.*) but the section on safety was more or less confined to an analysis of accident statistics.

One of the methods of achieving this object is that of agreements between employers and workers defining the safety measures to be adopted and the mutual obligations of the parties concerned. During the year an addition was made to the agreements already in existence by the conclusion of the Sheffield Rolling Mills Agreement, which, although it applies only to mills in Sheffield engaged in certain types of work, has served as a model for other areas within the limits imposed by local conditions. This document, quoted in full in the Chief Inspector's report, pays particular attention to the floors in mills, and lays down that the state of the floor level is to be examined at the end of each shift so that the employer may immediately have any defects adjusted. The question of the fencing of machinery in bakeries (dough brakes and dough mixers) was examined from the technical point of view in the 1921 report. It was discussed at conferences between the inspectors and representatives of employers, and as a result an agreement was reached with the Scottish bakers as regards fencing of all types of dough brakes and of new dough mixers. Experiments are being conducted in connection with the fencing for existing mixers, but so far no practical results have been reached and no action has yet been taken. The English bakers, on the other hand, have refused to accept the principle of collective safety measures, and the inspectors must therefore take the required steps in each individual case, testing the matter before the courts if necessary.

Negotiations are still in progress concerning the use of rubber mixing rolls in the india-rubber trade and draft regulations for the building industry. In the latter case some progress has been made as the result of conferences between employers and operatives.

Another method of obtaining satisfactory safety standards is that of regulations made under the powers conferred by Section 79 of the Factory Act. During the year three sets of regulations — for the manufacture of india-rubber, for chemical works, and for woodworking machinery—have been drawn up. Prolonged negotiations were necessary before the objections to these three codes were overcome, but they have finally been accepted by the parties concerned. The most important of these codes, that relating to woodworking machinery, came into force at the beginning of 1923, and specifies in detail the guards which are to be provided for circular saws, band saws, planing machines, spindle moulding machines, and chain-morticing machines. While introducing nothing that is really new, the code will help to bring the general standards of protection up to the level of the best-equipped works.

A last line of attack is the publication of illustrated pamphlets in which information is provided on the dangers presented by certain types of machinery and practical methods of meeting them. These publications, including among others pamphlets on precautions in the installation and working of hoists and of abrasive wheels, have proved very popular, and further series are in course of preparation.

When everything possible has been tried in the above-mentioned directions there still remain a very large number of accidents against which no material safeguards can be devised. Their causes are individual

and can be eliminated only by proper education, not by legislation and regulations. They require a campaign or movement in favour of safety-first principles, the success of which depends mainly upon the spirit in which it is carried out ; the driving force must come from within the industry itself. It follows that the inspectors can play only a minor part in the matter, that of preaching the gospel and bringing to the notice of employers the good results that can be obtained with comparative ease, thereby encouraging them to take up the question. The Factory Inspection Department is represented on the area committees of the British Industrial Safety First Association, and some of the inspectors have thus had the opportunity of addressing meetings both at individual works and at more general gatherings of workers.

An examination of the results of the safety-first movement leads to the conclusion that although the reports as a whole are not yet satisfactory, two encouraging facts may be noted. In the first place the movement is being taken much more seriously than before, and it is everywhere accorded the importance it deserves. Secondly, the inspectors' reports refer to the establishment of safety committees in a continually growing number of undertakings throughout the country. For the first time a shipping company has appointed a safety engineer to see to the safety of persons employed in loading and unloading at the docks.

Renewed evidence is recorded with satisfaction of the excellent results which may be obtained from efficient safety organisation. The previous year's report had already referred to the results obtained by a large paper mill in the London area. The figures for 1922 show that the improvement effected has been maintained. The frequency rate of accidents fell by a further 3 per cent. and the severity rate, although it rose slightly as compared with 1921, was still 40 per cent. below the rate for the first year recorded.

Equally favourable results were reached by an important engineering firm, as will appear from the following table showing the outcome of 3½ years of safety work :

	1919	1920	1921	1922
Number of lost-time accidents	347	210	91	80
Frequency rate (number of lost-time accidents per million hours worked)	50	28	30	28
Severity rate (days lost per 1,000 hours worked)	3.05	1.5	1.3	0.7

The accident prevention work of another engineering firm led to marked reduction in the accident compensation paid. The compensation paid, which was calculated on a fixed basis, fell from about 10s. per £100 wages in 1913 to 2s. 10d. in 1921.

In conclusion it may be said that some progress has been made during the year, although it has been slow. It should not be forgotten that there is still a wide field to be developed and that in certain cases there is considerable apathy to be overcome, while in others the movement is vigorously opposed as being likely to interfere with discipline in the works and with managerial rights. Constant effort is necessary to overcome these obstacles. In this connection the report refers

to the importance of the work of the British Industrial Safety First Association, which in spite of unfavourable conditions has succeeded in extending its activities. New local committees have been established in several important centres, and it is hoped that through their agency there will be an increase in the number of affiliations.

It is noted with satisfaction that one accident insurance company is taking an active part in accident prevention and carrying on propaganda among its clients in favour of the safety-first movement. It has established a special engineers' department, placed at the disposal of its insured members, to assist them in establishing efficient safety organisations in their works. The company has also had prepared an educational cinematograph film which has proved very popular and has been exhibited to about 15,000 workers.

The above survey will indicate the importance attached by the British Chief Factory Inspector to the work of the inspectors being supported in industrial centres by the persons actually concerned, if satisfactory results are to be achieved.

Dangerous Machinery and Trades

Much attention has been devoted to the subject of cranes, but very little new information has been obtained. They remain a fruitful source of accidents, and were responsible during 1922 for a total of 1,210, 40 of which were fatal and 214 of a serious nature. These figures show a marked improvement as compared with the two previous years, but the progress is more apparent than real owing to the depression in the heavy industries in which the use of cranes predominates. The year's accidents have been analysed in detail according to causes and the type of crane, with a view to making further investigations. It is found that the percentage of accidents attributable to any particular kind of crane remains very constant from year to year. Ordinary hand jib cranes and overhead cranes were responsible for 16 per cent. and 34 per cent. respectively of the total number of accidents. Two fatal accidents were due to the use of unsuitable material. Cast iron is not suited for the construction of certain parts of cranes which are subjected to severe stress, and the parts exposed to water, for instance in hydraulic cranes, should not be made of iron but of phosphor-bronze or stainless steel. Other accidents have shown that it may be dangerous to use insufficiently greased or ungalvanised wire ropes on cranes which are exposed to an atmosphere of acid fumes, or even to the moist salt winds of sea fronts. This danger is all the more serious because ropes which have corroded at the core may show no outward sign of deterioriation. One fatal accident was due to the overturning of a locomotive crane which had been too suddenly arrested. Several similar accidents, due to the overloading of overhead cranes, show the importance of using a load indicator, or having the weight marked on the load, especially in dock work where miscellaneous goods are handled and it is often impossible to estimate their weight from their appearance.

Progress in the provision of guards for power presses is reported

from most districts. Experience has again shown that double hand lever controls are not reliable and should be replaced by more efficient types of guard. A frequent objection brought forward by employers or workers to the use of guards on power presses is that such appliances retard production. This argument is entirely erroneous and a number of cases have been observed in which the adoption of guards has in fact improved output. An efficient guard may entail the use of adjuncts such as special extractors for clearing the pressed article, but these can readily be applied by intelligent fitters. One of the inspectors records a marked increase in the use of automatic feeds, which also reduce the risks. An analytical accident table given is of considerable interest, pending the publication of the pamphlet which the Department is preparing on the different kinds of guards for power presses.

Close attention continues to be given to bursts of abrasive wheels. Thus experiments have been made with radiographs of broken wheels in cases where the cause of bursting was obscure. Unfortunately these experiments have not yielded useful results, and in particular have not served to detect lack of homogeneity in the structure of the wheels. Most of the accidents are found to be due to the absence of any system of proper supervision over the mounting, working, and guarding of the wheels. The report quotes typical examples of failure to observe the most elementary rules relating either to peripheral speed or methods of dressing. In one works, for instance, two wheels in succession burst, and on enquiry the fact emerged that the peripheral speed was over 11,000 feet per minute. The foreman had been under the impression that this was rather less than the speed recommended by the makers because, owing to the tags having become detached from the wheels, the instructions for a 5-inch wheel had been regarded as applying to the 11-inch wheels.

The question of the stresses set up in a rapidly revolving body has also been examined. In addition to the bursting of wheels a certain number of accidents due to the bursting of circular saws, turbine driven centrifuges, etc. were recorded, and were made the subject of special investigation. Frequently the necessary attention had not been given to one or other of the following points : normal speed, the construction of the part, the use of suitable material, periodical examination, safeguards. A cast iron fly-wheel about 10 feet in diameter on a horizontal ammonia compressor burst owing to defective construction and to blow holes in the metal. This accident might have had very serious results if the refrigerating system had been fractured, but fortunately there was no injury to human beings. Wheels of this kind should be designed to resist the stress imposed both in actual work and during manufacture.

The Department has also had to consider cases of dangerous buildings. The collapse of a factory which had been rebuilt partly on old foundations has shown the importance of careful examination of parts of old buildings before incorporating them in new buildings, of providing proper bearings for columns, and exercising great care when installing machinery in a building not originally constructed for this purpose.

The report next examines the situation in certain dangerous trades which are subject to special regulations, in particular, the manufacture of aerated water, the use of celluloid, chemical works, docks, the manufacture of rubber, and potteries. In the two last-named cases the regulations relate mainly to questions of sanitation, as their chief purpose is to secure the removal of injurious dust.

The new code on the use of celluloid which recently came into force has given much trouble to the authorities. It applies to a large number of industries in which celluloid is used in very varying quantities and under widely differing conditions. Difficulties were, for instance, met with in photographers' work-rooms and small cutlers' workshops owing to defective provision of means of escape in case of fire. One of the inspectors paid special attention to factories engaged in cutlery manufacture, and he concludes his report on the working of the new regulations with the statement that useful results have already been obtained as regards both the removal of celluloid waste and the decrease in the dangerous habit of smoking in the workrooms.

One of the engineering inspectors was instructed to make several investigations to serve for a general report on the working of the code in the industries concerned. In his opinion the ventilation of the premises used for storing celluloid is often defective. The importance of having part of the roof lightly constructed is scarcely realised. This precaution is useful as affording a vent for the sudden rush of flame and gas arising from a fire within the store and so avoiding an explosion. Cinematograph films may be safely stored in vaults such as are used in America. In the vaults, which should be fire-resisting, there should be a sprinkler system and gas relief openings which may be closed by ordinary window glass held by lightly fastened wooden strips. It is not generally known that the ignition of celluloid may occur through exposure to the direct heat of an electric light bulb and that therefore such lights in stores should be enclosed by outer globes. Vigorous measures have had to be taken against the negligence in certain workshops where celluloid is used in close proximity to open gas flames. In certain photographers' workrooms celluloid negatives are even dried by suspending them directly over an open flame. In conclusion, it is pointed out that certain types of extinguishers are not suited for celluloid fires. It should not be forgotten that burning celluloid itself gives off the oxygen needed for combustion. For this reason carbon dioxide extinguishers can only reduce the intensity of the flame without putting it out. A reduction of temperature is necessary and water is the best means of securing this.

No serious difficulties have been met with in the administration of the new code for chemical works. The only question still unsettled is that of the kinds of breathing apparatus to be used in certain cases. Until a decision has been reached as to the best type to be used, manufacturers have been instructed to employ a face mask provided with a tube passing to the outer air. An important provision introduced by the code is that requiring a certificate signed by a responsible person for admission to a place where there is reason to apprehend the presence of dangerous gas.

During 1922 the Department paid special attention to accidents in docks. The detailed tables which have been drawn up indicate that cases of accidents due to failure to observe the provisions of the special regulations form only a small proportion of the total. An improvement is therefore to be sought in better supervision on the part of employers and the exercise of greater care on the part of workers. In other words safety-first principles must be applied, and there is wide scope for the movement in this direction.

The code relating to shipbuilding has proved inadequate for its purpose, and a committee has been appointed to review the position.

Two chapters of the report deal with the statements of the Senior Electrical Inspector and the Senior Engineering Inspector. The engineering inspectors are responsible for making the enquiries necessitated by the new regulations and for discussing them with the persons concerned. In addition to his general work each engineering inspector devotes attention to a special subject, e.g. the protection of bakery machinery, the analysis of crane accidents, the removal of dust, etc.

The nature of the accidents recorded by the Senior Electrical Inspector remains unaltered. Some are due to the imprudence of workers working in close proximity to high-tension plant, others to shock from alternating current at a very low voltage. Thus a man working in the pit in a garage was killed by the shock from contact with the live wires in an ordinary lamp which had been broken.

Many low-pressure accidents are produced by the use of single-pole switches which are not properly connected. Such systems usually have an earthed neutral conductor, e.g. in the case of four-wire three-phase distribution, the lighting circuits being taken from one phase and the neutral. Many wiring contractors connect the single-pole switches at random in whichever wire happens to be most convenient, and if unfortunately it happens to be in the neutral conductor full pressure is maintained in the circuit whether the switch is on or off. This practice is prohibited by the regulations, but it is difficult to detect in the course of ordinary inspection without the use of a portable voltmeter.

Several serious accidents have already occurred as the result of the ignition and explosion of transformer oil, and it is obvious that special safety measures should be taken against this. The best method is the installation of an arrangement by which the transformers are automatically disconnected directly there is an abnormal rise in temperature. It would obviously be simpler to use thermometers fixed on each transformer, but it is not certain that they would be regularly examined.

The electrical inspectors further point out that many manufacturers are changing over from direct to alternating current, or even from a low-tension to a high-tension system, without in the least realising the dangers they run and the responsibilities they assume. Reference is also made to defects on switchboards, where the conductor is often improperly protected.

STATISTICS

Employment and Unemployment

The upward movement of unemployment which has been in progress in most countries since October 1923 had reached its climax at the beginning of 1924 and in no country is any perceptible increase of unemployment shown in the latest figures, with the exception of Austria.

In Italy, the number of wholly unemployed showed a decrease of 20,000 at the end of February as compared with the previous month. The recent decline in the number of short-time workers reported is due probably to the effect of the new unemployment insurance Act. Under this Act unemployment insurance is, from 1 January, no longer compulsory for certain groups of agricultural workers, and persons unemployed on account of seasonal depression are no longer entitled to benefit.

In Great Britain the latest unemployment figures again show a slight improvement; and employment in the United States has shown in February, for the first time since June 1923, a slight increase. The new index of employment for the United States recently begun by the Federal Reserve Board is now given in table II. This index is a very carefully weighted average of the employment returns published by the several States and by the Federal Government and covers 33 industries.

TABLE I. STATISTICS OF UNEMPLOYEMENT

Date (end of month)	Germany				Australia		Austria	Belgium			
	Trade unionists				Trade unionists		Compulsory insurance	Unemployment insurance societies			
	Wholly unemployed		Partially unemployed		Number unemployed	Per cent.	Number unemployed	Wholly unemployed		Partially unemployed	
	Number	Per cent.	Number	Per cent.				Number	Per cent.	Number	Per cent.
1921											
March	212,276	3.7	—	9.5	39,346	11.4	9,790	69,714	10.4	140,967	21.1
June	177,916	3.0	—	7.2	45,622	12.5	11,035	66,408	9.9	86,823	13.0
Sept.	81,853	1.4	—	2.9	41,979	11.4	10,594	71,246	9.6	60,589	8.2
Dec.	97,687	1.6	—	1.5	35,250	9.5	16,713	49,851	6.6	36,232	4.8
1922											
March	71,004	1.1	—	1.3	34,879	9.2	42,231	38,050	5.2	28,912	4.0
June	36,350	0.6	—	0.6	35,796	9.6	33,393	19,068	2.6	23,817	3.3
Sept.	52,349	0.6	—	2.6	36,706	9.6	38,000	9,397	1.3	17,034	2.5
Dec.	182,955	2.8	492,711	8.7	33,570	8.8	117,891	11,743	1.7	14,312	2.1
1923											
March	340,711	5.6	1,237,356	23.6	27,112	7.2	152,828	4,788	0.8	12,010	1.8
June	235,556	4.1	794,821	15.3	26,931	7.1	92,789	5,605	0.8	11,653	1.8
Sept.	501,544	9.9	1,787,622	39.7	28,122	7.4	78,801	3,008	0.5	6,922	1.1
Oct.	917,384	19.1	2,000,000	47.3	•	•	75,810	3,977	0.6	8,714	1.3
Nov.	1,112,528	23.4	2,000,000	47.3	•	•	79,290	5,863	0.9	11,763	1.8
Dec.	1,304,973	28.2	1,691,309	42.0	22,682	6.2	98,060	11,017	1.7	12,750	1.9
1924											
Jan.	1,158,586	26.5	889,200	23.4	•	•	119,613	10,054	1.5	14,697	2.2
Feb.	1,052,390	25.1	620,490	17.1	•	•	126,734	10,829	1.6	12,785	1.9
Number on which latest percentages are based	4,195,393		3,624,531		366,377		•	700,000			

TABLE I (*cont.*)

Date (end of month)	Canada		Denmark		Esthonia	Finland	France	Italy	
	Trade unionists		Trade unionists		Number unemployed remaining on live register	Number of unemployed	Number of unemployed in receipt of benefit	Number of unemployed registered	
	Number unemployed	Per cent.	Number unemployed	Per[1] cent.				Wholly unempl.	Partially unempl.
1921									
March	34,106	16.5	69,387	23.6	—	2,927	91,225	250,145	69,270
June	23,866	13.2	46,533	16.8	—	937	47,331	388,744	238,940
Sept.	15,530	8.5	47,138	16.6	—	1,369	21,797	472,216	154,350
Dec.	24,311	15.1	74,581	25.2	—	2,127	10,092	541,775	178,662
1922									
March	15,173	9.6	86,627	27.9	1,303	2,861	8,474	498,606	153,542
June	8,101	5.3	33,262	13.2	1,278	799	4,884	372,001	95,334
Sept.	4,568	2.8	27,281	10.6	528	791	2,830	312,714	84,087
Dec.	9,982	6.4	52,597	20.3	793	1,294	2,644	381,968	42,558
1923									
March	10,185	6.8	40,684	15.6	661	1,242	2,571	280,701	43,559
June	5,299	3.4	20,722	8.1	865	512	2,087	216,287	39,288
Sept.	3,018	2.0	19,602	7.7	507	676	1,363	180,634	72,789
Oct.	7,700	4.8	20,381	8.0	619	886	1,280	199,694	67,805
Nov.	10,000	6.2	30,999	12.1	926	1,085	434	225,095	65,068
Dec.	11,767	7.2	50,148	19.6	821	779	440	258,580	62,386
1924									
Jan.	12,000	7.5	—	21.0	2,502	1,615	1,228	280 765	—
Feb.	—		—	21.3	—	1,685	1,023	259,360	19,328
March	—	7.8	—	—	—	—	1,022	—	—
Number on which latest percentages are based	162,000		257,000		•	•	•	•	

[1] The figures for 1923 have been revised.

TABLE I (*cont.*)

Date (end of month)	Great Britain and Northern Ireland				Latvia	Massachusetts		Norway	
	Trade unionists		Compulsory insurance		Number unemployed remaining on live register	Trade unionists		Trade unionists	
	Number unemployed	Per cent.	Number unemployed	Per cent.		Number unempl.	Per cent.	Number unempl.	Per cent.
1921									
March	152,118	10.0	1,355,206	11.3	•	52,845	22.2	8,300	16.5
June	295,238	23.1	2,171,286	18.2	•	50,055	20.6	9.300	20.6
Sept	211,953	14.8	1,484,829	12.2	•	47,536	20.0	6,900	17.3
Dec.	235,872	16.5	1,934,030	16.2	•	55,000	25.0	8,700	23.4
1922									
March	220,847	16.3	1,765,329	14.6	3,310	42,160	20.5	8,140	25.4
June	218,626	15.7	1,502,955	12.7	4,437	27,126	12.7	5,460	15.6
Sept.	190,048	14.6	1,414,373	11.9	2,106	8,633	3.8	3,750	11.0
Dec.	174,102	14.0	1,431,929	12.2	6,425	23,342	10.5	5,086	15.1
1923									
March	145,894	12.3	1,303,476	11.1	4,168	13,659	6.2	4,876	14.5
June	130,188	11.1	1,295,136[1]	11.3[1]	1,622	8,986	5.1	2,661	7.9
Sept.	129,245	11.3	1,344,667	11.7	—	7,707	3.8	2,521	7.6
Oct.	125,546	10.9	1,347,857	11.7	—	•	•	2,834	8.6
Nov.	120,882	10.5	1,324,658	11.5	—	•	•	3,136	9.5
Dec.	110,743	9.9	1,226,641	10.7	—	—	—	4,468	14.0
1924									
Jan.	100,383	8.9	1,371,470	11.9	—	•	•	—	—
Feb.	96,450	8.6	1,226,504	10.7	—	•	•	—	—
Number on which latest percentages are based	1,124,272		11,502,800		•	204,062		32,000	

[1] Before June 1923 the figures relate to workers wholly unemployed; after that date the number of short-time workers claiming benefit who were estimated to be unemployed on the date of the returns is included.

TABLE I (*cont.*)

Date (end of month)	Netherlands		Poland	Sweden		Switzerland		Czechoslovakia	
	Unemployment insurance societies		Number of unemployed	Trade unionists		Number of unemployed registered	Number of short-time workers	Number of persons unemployed	Number in receipt of benefit
	Number unempl.	Per cent.		Number unemployed	Per cent.				
1921									
March	53,964	14.1	80,000	40,561	24.6	39,831	95,374	102,180	53,086
June	31,283	8.1	115,000	40,525	27.9	45,176	76,116	103,170	46 128
Sept.	27,564	7.2	70,000	40,347	26.2	53,480	69,421	70,780	26,802
Dec.	65,313	17.0	173,000	47,669	33.2	65,164	53,970	78,312	32,902
1922									
March	51,250	14.3	173,000	45,879	30.6	61,756	40,315	128,336	69,719
June	32,019	9.2	105,000	27,547	21.5	37,100	30,629	107,702	56,599
Sept.	30,725	9.1	68,000	20,109	15.2	32,013	23,352	232,394	128,864
Dec.	49,608	15.1	75,000	27,784	21.7	39,406	20,429	437,841	278,344
1923									
March	42,417	13.7	114,570	25,678	19.9	29,524	19,797	369,420	218,249
June	27,409	9.3	76,397	12,903	9.8	15,787	13,585	246,616	126,297
Sept	32 709	11.6	52,420	10,752	7.9	14,791	14,422	210,535	100,664
Oct.	30,711	11.0	54,923	11,013	8.2	17,096	14,622	176,333	80,392
Nov	31,562	13.9[1]	61,767	12,110	9.1	19,699	14,368	177,367	72,593
Dec.	48,770[1]	17.3[1]	—	18,533	14.1	20,751	12,800	191,978	85,418
1924									
Jan.	62,825[1]	22.7[1]	—	24,487	13.6	21,750	12,661	—	—
Feb.	47,881[1]	17.3[1]	—	—	12.8	20,946	11,985	—	—
March	—	—	—	—	—	15,462	8,164	—	—
Number on which latest percentages are based	277,000[1]		•	180,000		•		•	

[1] Provisional figures.

TABLE II. STATISTICS OF EMPLOYMENT

Date (end of month)	Germany[1]	Poland	Canada[1]	United States	
	Index number of membership of sickness funds (membership in Dec. 1921=100)	Index number of employment (number employed in Jan. 1923=100)	Index number of employment (number employed on 17 Jan. 1920=100)	Percentage change on preceding month in numbers employed in identical establishments	Index number of employment (average number employed in 1919=100)
1922					
March	104.6	*	80.6	*	87
June	109.6	*	91.1	*	89
Sept.	108.0	*	94.6	*	91
Dec.	103.5	*	86.3	+ 2.4	98
1923					
March	101.0	100.2	87.6	+ 2.4	103
April	102.9	100.3	91.4	+ 0.5	103
May	104.6	102.8	97.3	+ 0.3	103
June	106.0	105.2	99.5	+ 0.1	103
July	106.5	105.2	100.2	— 1.8	101
Aug.	104.0	105.5	100.0	— 0.2	101
Sept.	100.7	105.0	99.5	— 0.2	101
Oct.	96.2	108.2	98.8	+ 0.1	101
Nov.	92.3	105.4	95.7	— 0.5	100
Dec.	89.4	—	88.7	— 1.5	99
1924					
Jan.	88.0	—	90.6	— 1.0	—
Feb.	89.5	—	90.7	+ 1.2	—
Number of persons on which latest figure is based	9,668,280	418,591	748,537	2,693,636	

[1] The figures relate to the 1st of the following month.

The sign * signifies " no figures published ". The sign — signifies " figures not yet received ".

Prices and Cost of Living

The only countries showing any marked movement in prices in the last few months are Belgium and France. In Belgium the wholesale price index rose from 580 in January to 642 in February, an increase of over 10 per cent., and in France a rise of 10 per cent. was experienced in January. These recent rises due to the fall of the currency are not yet reflected in retail prices.

In Germany, the price index numbers have become fairly stable and the weekly figures formerly given in table II have been discontinued here. The slight rise in the cost of living since the beginning of the year is due to the rapid increase in rents which has recently taken place. The following figures published by the German Federal Statistical Office show how the recent increases in rent have affected the workers' expenditure. Owing to rent restrictions the proportion spent on rent fell to negligible proportions, from about 20 per cent. in 1913-1914 to 0.6 per cent. in November 1923. In March, however, the proportion had risen to 7.3 per cent.

RENT IN RELATION TO COST OF LIVING IN GERMANY

Date	Total cost of living per month (in gold marks.)	Rent per month	
		Amount (in gold marks)	Per cent. of cost of living
1913-1914	119.78	24.46	20.4[1]
1923			
26 Nov.	183.57	1.15	0.6
7 Jan.	135.55	6.95	5.1
4 Oct.	124.71	7.98	6.4
1924			
3 March	126.95	9.31	7.3

[1] This percentage, which is given in *Wirtschaft und Statistik*, 1. Marzheft, 1924, p. 143, is a higher figure than has usually been accepted. This is no doubt due to the fact that the pre-war figure for rent is compared with a post-war budget.

The Norwegian Government has now begun to publish a wholesale price index and this has been substituted in the following tables for the index number of the *Oekonomisk Revue* formerly published.

INDEX NUMBERS OF PRICES AND COST OF LIVING

Date	South Africa	Australia Melbourne	Austria Vienna	Belgium	Bulgaria	Canada	Denmark	Egypt Cairo	Spain	United States B. of Lab. Stat.	United States Fed. Res. Bd.	Finland	France towns	Hungary	India Bombay	Italy	Japan	Luxemburg	Norway	New Zealand	Netherlands	Poland	United Kingdom	Sweden	Switzerland	Czechoslovakia
WHOLESALE PRICES (*Base, as far as possible, 1913 = 100*)[1]																										
1923																										
Jan.	131	170	•	434	•	150	192	141	170	156	165	1134	387	•	177	575	184	•	223	171	157	544690	157	163	175	1019
Apr.	126	174	•	480	•	155	204	133	174	159	169	1096	415	•	175	589	196	•	229	174	156	1058920	161	168	186	1029
July	124	189	•	504	•	154	207	123	170	151	159	1080	407	•	173	566	192	•	231	176	145	3069970	157	162	175	958
Aug.	•	184	1657400	529	•	153	202	120	171	150	159	1080	412	•	171	567	190	•	233	175	142	5292280	155	162	173	957
Sept.	•	180	1779400	514	•	155	205	123	174	154	163	1089	424	•	175	569	210	•	232	177	145	7303300	158	162	181	973
Oct.	125	179	1759700	515	•	153	207	129	171	153	163	1077	422	•	149	563	212	•	235	176	148	27380680	158	161	182	964
Nov.	•	181	1779500	531	•	153	210	134	173	152	163	1070	443	•	184	571	210	•	243	175	153	67943700	161	160	183	984
Dec.	•	—	1818100	545	•	154	210	137	176	151	163	1096	459	•	188	577	211	•	247	174	154	142300700	163	160	183	990
1924																										
Jan.	—	—	1874800	580	•	157	223	133	178	151	163	1071	495	•	188	571	211	•	251	—	156	252167700	165	161	183	1029
Feb.	•	—	1915860	642	•	—	227	—	180	152	—	1078	—	•	188	573	—	•	261	—	158	—	167	162	180	1036
March	•	—	1912000	—	•	—	228	—	—	—	—	—	—	•	181	—	—	•	—	—	—	—	165	—	182	—
COST OF LIVING (*Base, as far as possible, 1914 = 100*)																										
	9 towns	6 towns	Vienna	59 towns (1921 =100)	12 towns	60 towns	100 towns			32 towns	Mass.	21 towns	Paris[2]			Milan			31 towns	4 towns	Amsterdam	Warsaw	630 towns	49 towns	23 towns	
1923																										
Mar.	131	136	1051100	106	2812	150	•	164	•	169	155	1147	324	48516	154	493	•	428	240	144	172	761821	174	177	160	
June	131	148	1151300	105	2531	146	204	161	•	170	156	1108	334	114298	151	491	•	440	239	146	173	1277967	169	174	165	•
July	130	•	1090380	109	2395	145	•	161	•	•	157	1111	•	225267	153	487	•	452	•	•	•	2093646	171	•	•	•
Aug.	130	•	1049600	112	2280	148	•	158	•	•	156	1163	•	329507	154	483	•	467	•	•	•	3795800	173	•	•	•
Sept.	131	152	1084100	117	2253	149	•	158	•	172	157	1172	331	375308	154	487	•	465	230	147	173	5383800	175	177	166	•
Oct.	132	•	1102700	117	2250	150	•	159	•	•	158	1193	•	410529	152	502	•	475	•	•	•	18994900	175	•	•	•
Nov.	133	•	1114900	120	2399	150	•	160	•	•	157	1190	•	445708	153	502	•	479	•	•	•	44094496	177	•	•	•
Dec.	133	148	1124900	122	2583	150	•	161	•	173	158	1170	345	502292	157	499	•	487	234	150	178	119656700	177	176	168	•
1924																										
Jan.	133	•	1174000	124	—	150	209	159	•	•	157	1155	•	597420	158	510	•	500	•	•	•	298867100	179	•	•	•
Feb.	134	•	1194000	128	—	148	•	—	•	•	156	1143	•	—	156	517	•	507	•	•	•	292417400	178	•	•	•
March	—	—	1199600	130	—	—	•	—	•	•	—	1141	—	—	153	—	•	486	—	—	—	—	—	173	170	•
FOOD (*Base, as far as possible, July 1914 = 100*)																										
			Vienna	59 towns (1921 =100)				Madrid[2]		Mass.		Paris[2]								25 towns	Amsterdam	Warsaw				553 towns[2]
1923																										
Mar.	117	145	1163700	103	2816	143	•	163	178	142	136	1096	321	58192	149	493	•	•	214	141	141	1132960	168	164	156	926
June	118	162	1413200	98	2546	137	188	161	170	144	135	1004	331	158455	146	502	•	•	213	142	136	1636650	162	158	165	933
July	116	164	1291100	105	2405	142	•	157	172	147	138	1002	321	303497	148	496	•	•	218	142	136	2419723	165	158	164	921
Aug.	115	165	1233500	109	2287	141	•	154	178	146	137	1087	328	450764	149	489	•	•	220	142	137	4951400	168	158	162	892
Sept.	115	161	1250900	115	—	143	•	155	178	149	138	1103	339	494200	149	496	•	•	218	145	139	6840700	172	163	163	903
Oct.	117	157	1263600	115	—	144	•	157	174	150	140	1140	349	560270	147	502	•	•	217	146	143	21589500	173	164	162	901
Nov.	119	157	1264700	119	—	145	•	159	177	151	140	1133	355	600603	147	503	•	•	221	147	142	53148510	176	163	166	898
Dec.	118	156	1286000	121	—	145	•	161	182	150	139	1112	365	773226	152	500	•	•	226	147	170	152627400	175	162	167	909
1924																										
Jan.	120	—	1352700	124	—	145	194	158	178	149	136	1089	376	899600	154	515	•	•	230	149	144	415091700	177	161	168	917
Feb.	122	—	1382100	129	—	143	•	—	190	147	135	1070	—	—	151	516	•	•	234	—	—	400555300	176	161	167	917
March	—	—	1393000	130	—	—	•	—	—	—	—	1067	—	—	154	—	•	•	—	—	—	—	—	160	167	—

[1] Figures supplied by the Economic Section of the Secretariat of the League of Nations.

INDEX NUMBERS OF PRICES AND COST OF LIVING (*cont.*)

Jan.	120	—	1352700	124	—	145	194	158	178	149	136	1089	376	—	151	516	•	•	284	—	—	400555300	176	161	167	917
Feb.	122	—	1382100	129	—	143	•	—	190	147	135	1070	—	—	154	—	•	•	—	—	—	—	—	160	167	—
March	—	—	1393000	130	—	—	•	—	—	—	—	1067	—	—												

[1] Figures supplied by the Economic Section of the Secretariat of the League of Nations.

INDEX NUMBERS OF PRICES AND COST OF LIVING (*cont.*)

Date	South Africa 9 towns	Austria Vienna	Belgium 59 towns[1]	Canada 60 towns	Denmark 100 towns	Spain Madrid	United States 32 towns	United States Mass.	Finland 21 towns	France Paris	Hungary	India Bombay	Italy Milan	Norway 31 towns	New Zealand 4 towns	Poland Warsaw	United Kingdom	Sweden 49 towns	Switzerland 23 towns
CLOTHING (*Base, as far as possible, July 1914 = 100*)																			
1923																			
Mar.	153	1509200	109	140	•	•	174	180	1079	356	87718	222	653	232	•	1380900	225	199	174
June	153	1532300	114	140	239	•	175	181	1070	365	185608	265	596	230	•	3172422	220	196	175
July	•	1562400	113	•	•	•	•	179	1065	•	294898	205	596	•	•	6071100	220	•	•
Aug.	•	1589500	114	•	•	•	•	179	1062	•	499130	205	596	•	•	8526200	220	•	•
Sept.	155	1598100	117	140	•	•	176	180	1053	385	564350	206	596	227	•	11902200	220	194	174
Oct.	•	1681900	118	•	•	•	•	183	1046	•	581740	211	596	•	•	52027000	220	•	•
Nov.	•	1815600	120	•	•	•	•	184	1142	•	603040	225	596	•	•	104179200	220	•	•
Dec.	154	1867300	121	140	•	•	176	183	1042	392	616080	219	592	229	•	255630500	222	192	175
1924																			
Jan.	•	1877200	123	•	254	•	•	184	1038	•	715000	224	600	•	•	443568600	223	•	•
Feb.	•	1898300	127	•	•	•	•	184	1037	•	—	229	600	•	•	411035700	225	•	•
Mar.	—	1952100	132	—	•	•	—	—	1038	—	—	—	—	—	•	—	•	192	177
HEATING AND LIGHTING (*Base, as far as possible, July 1914 = 100*)																			
1923																			
Mar.	—	1506800	109	192	•	186	186	175	1468	308	43266	163	548	235	174	609200	188	188	177
June	—	1436400	118	184	282	190	181	182	1493	317	124000	163	528	242	175	1085487	180–185	185	179
July	•	1448400	120	185	•	191	•	183	1501	•	274657	164	528	•	•	1576500	180	185	177
Aug.	•	1368900	124	186	•	195	•	182	1506	•	448206	163	528	•	•	3274233	180	183	177
Sept.	—	1564600	124	186	•	177	181	183	1506	340	548000	159	530	—	174	4267963	180	183	177
Oct.	•	1566600	127	187	•	185	•	187	1498	•	600000	161	523	•	•	10579823	180	181	177
Nov.	•	1516800	128	187	•	164	•	187	1539	•	648000	161	523	•	•	31702400	180	180	177
Dec.	—	1452500	129	185	•	181	184	186	1511	350	648000	161	523	—	177	86658700	185	181	177
1924																			
Jan.	•	1539500	129	184	288	173	•	183	1506	•	709000	161	525	•	•	293719200	188	181	176
Feb.	•	1544100	129	—	•	186	•	184	1499	•	—	161	515	•	•	287794100	188	181	175
Mar.	—	1488900	129	—	•	—	—	—	1499	—	—	—	—	—	—	—	—	183	—
RENT (*Base, as far as possible, July 1914 = 100*)																			
1923																			Basle
Mar.	—	34600	132	145	•	•	162	159	804	200	611	165	211	173	144	76700	150	168	157
June	—	49600	133	144	160	•	163	161	947	200	3750	165	211	173	144	126172	147	163	158
July	•	49600	134	144	•	•	•	161	971	•	3750	165	211	•	•	398200	147	•	•
Aug.	•	52400	134	144	•	•	•	161	871	•	5700	166	211	•	•	744037	147	•	•
Sept.	—	52400	134	144	•	•	164	161	973	200	5700	165	211	173	148	917174	147	178	159
Oct.	•	72400	135	144	•	•	•	162	973	•	5700	165	307	•	•	1242770	147	•	•
Nov.	•	72400	135	144	•	•	•	162	973	•	32000	165	307	•	•	1242600	147	•	•
Dec.	—	72400	136	144	•	•	166	162	981	200	32000	165	307	173	148	10162900	147	178	160
1924																			
Jan.	•	72400	136	144	160	•	•	162	981	•	32000	165	307	•	•	32718300	147	•	•
Feb.	•	75100	138	—	•	•	•	162	981	•	—	165	307	•	•	59795700	147	•	•
Mar.	—	75100	139	—	•	•	—	—	981	—	—	—	—	—	—	—	—	178	161

[1] Base ; 1921 = 100.

The sign • signifies "no figures published". The sign — signifies "figures not yet available".

INDEX PRICES OF NUMBERS IN GERMANY

Date	Wholesale prices (*Base : 1913 = 1*)	Retail prices (*Base : 1913-1914 = 1*)				
		Cost of living	Food	Clothing	Heating and lighting	Rent
1923						
Mar.	4,888	2,854	3,315	4,323	5,529	113
June	19,385	7,650	9,347	11,995	10,378	301
July	74,727	37,651	46,510	66,488	36,904	714
Aug.	944,041	586,045	670,485	1,089,571	890,539	4,932
Sept.	23,900,000	15,000,000	17,300.000	26,500,000	23,300,000	200,000
Oct.	7,100 million	3,657 million	4,301 million	6,160 million	5,175 million	54 million
Nov.	725,700 million	657,000 million	86,200 million	816,000 million	834,000 million	22,000 million
Dec.	1,261,600 million	1,247,000 million	1,512,000 million	1,662,000 million	1,765,000 million	218,000 million
1924						
Jan.	1,173,000 million	1,100,000 million	1,270,000 million	1,510,000 million	1,630,000 million	290,000 million
Feb.	1,162,000 million	1,040,000 million	1,170,000 million	1,470,000 million	1,550,000 million	340,000 million
17 Mar.	1,214,000 million	1,070,000 million	1,200,000 million	1,490,000 million	1,510,000 million	380,000 million

INDEX NUMBERS OF PRICES IN RUSSIA

(*Base : 1913 = 1*)

Date (end of month)	Wholesale prices		Retail prices		Cost of living	
	Russia	Moscow	Russia	Moscow	Russia	Moscow
1923						
Mar.	31,790,000	43,100,000	38,655,000	40,800,000 [1]	39,260,000	37,700,000
June	97,960,000	150,540,000	117,933,000	127,426,000 [1]	117,570,000	121,759,000
July	152,240,000	245,810,000	206,567,000	188,414,000 [1]	194,834,000	197,092,000
Aug.	275,290,000	450,430,000	335,118,000	307,051,000 [1]	330,267,000	360,396,000
Sept.	549,010,000	879,100,000	666,150,000	552.868,000	660,000,000	642,400,000
Oct.	873,000,000	1,415,800,000	1,185.250,000	1,558.650,000	1,102,000,000	1,147,000,000
Nov.	1,731,000,000	2,712,000,000	2,359,100,000	2,900,500,000	2,315,000,000	2,199,180,000
Dec.	3,781,000,000	6,090,000,000	5,387,530,000	6,914,140,000	5,450,000,000	5,404,000,000
1924						
Jan.	11,649,000,000	—	16,473,000,000	21,075,000,000	—	16,421,000,000
15 Feb.	25,042,000,000	—	35,172,000,000	44,334,000,000	*	26,663,000,000
1 Mar.	43,197,000,000	—	60,945,000,000	77,387,000,000	—	—

[1] Monthly average.
The sign * signifies " no figures published ". The sign — signifies " figures not yet available " .

Migration Movements

The migration statistics which were first published in the March number of the *Review* are given below brought up to date. There is no change in the countries considered, the sources from which the information is taken, or the methods of determining the figures. Two points only call for attention.

Since the publication of the previous article, the German Federal Labour Office has communicated statistics of the number of alien workers placed by the frontier stations of the German Central Employment Organisation (*Deutsche Arbeiterzentrale*), during 1922, 1923, and January and February 1924. The figures of agricultural workers placed have been inserted in the table of continental immigration ; the numbers are slightly less than those of immigrant agricultural workers registered by the frontier stations[1]. Continental immigration of industrial workers is at present almost negligible ; in fact, the Federal Labour Office has given up publishing statistics of alien industrial workers placed by the Central Employment Organisation[2].

With regard to Czechoslovakia, it should be pointed out that complete statistics of Czechoslovak emigration to the United States (new passports issued) in January and February have not yet appeared. The figures in table I cover only emigration to other oversea countries.

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[1] Cf. *International Labour Review*, Vol. IX, No 1, Jan. 1924 : "Continental Immigration in Germany : Control and Compilation of Statistics", p. 69.

[2] The number of industrial workers placed by this Organisation was 31 in September 1922, 10 in February 1923, 35 in March, and 4 in April.

TABLE I. OVERSEA EMIGRATION OF NATIONALS OR FOREIGN RESIDENTS

Period	South Africa	Germany	Austria	Belgium	Denmark	Danzig	Spain	United States	Finland	Great Britain	Hungary	India	Italy	Japan	Malaya	Norway	New Zealand	Netherlands	Poland	Roumania	Serbs, Croats & Slovenes	Sweden	Switzerland	Czechoslovakia
1920	*	8,458	7,500	9,384	6,300	*	147,918	261,723	5,595	285,105	*	*	194,224	2,875	*	5,600	*	5,978	74,121	*	*	6,078	9,276	16,857
1921	15,769	23,254	5,176	2,200	5,309	24	62,479	245,978	3,557	199,177	1,218	*	182,040	10,000	61,551	4,627	*	3,386	87,334	2,949	12,965	5,062	7,120	17,086
1922																								
Jan.		1,351	449	57	128	1	3,535	7,085	196				5,628	441	4,045	100	49		2,286	116	37	155	301	597
Feb.		1,043	308	63	174	0	2,709	6,558	233	29,011	27	*	3,979	629	4,171	269	87	371	1,515	272	78	267	268	521
March		1,837	685	51	207	1	3,890	7,865	335				5,447	776	4,972	568			2,225	502	107	219	488	595
April	7,535	2,148	666	72	546	0	2,536	12,208	414				4,378	722	5,082	1,056	117		1,776	582	99	615	468	548
May		2,549	800	58	322	0	2,923	11,410	475	46,223	168	*	3,700	947	4,382	434	115	677	2,500	1,360	137	975	464	1,345
June		2,359	719	83	400	0	2,890	11,832	443				8,159	688	3,955	684	104		2,986	2,051	453	641	447	1,778
July		1,962	902	88	305	7	2,319	14,214	554				6,415	561	3,535	449	65		2,727	2,070	983	418	381	3,807
Aug.	995	4,386	930	63	544	0	4,400	9,954	722	51,140	907	*	16,833	633	2,729	638	56	696	4,026	2,416	1,106	866	547	2,613
Sept.	790	4,961	1,036	95	376	1	7,413	7,095	775				15,058	433	4,447	942	61		5,472	2,105	972	972	705	3,504
Oct.	934	4,718	1,583	177	548	1	10,544	6,715	606				20,075	643	2,226	752	58		4,200	2,016	1,002	804	668	3,038
Nov.	837	5,285	1,214	49	387	1	12,135	6,553	577	47,722	599	*	20,900	583	2,960	436	40	633	5,075	1,848	673	986	665	1,367
Dec.	595	3,412	1,278	14	157	1	8,218	7,640	385				10,838	560	3,229	128	37		3,928	1,474	439	471	385	650
Total	11,686	35,511	10,579	870	4,094	13	63,512	109.129	5,715	174,096	1,701	*	121,410	7,616	45,733	6,456	789	2,377	38,716	16,812	6,086	7,389	5,787	20,363
1923																								
Jan.	962	3,066	1,750	13	304	0	6,041	3,777	636				10,771	—	—	251	37		2,967	1,419	157	668	418	659
Feb.	1,044	4,712	1,764	67	361	0	5,414	2,459	886	45,283	16	*	11,482	—	—	999	94	1,225	848	1,136	223	1,186	545	995
March	1,179	5,859	1,322	215	741	0	5,914	3,089	861				10,857	—	—	1,836	95		233	1,345	198	2,326	512	2,222
April	1,209	7,988	621	249	668	6	4,976	4,171	1,233				8,952	—	—	2,685	104		2,039	634	310	3,363	474	2,629
May	1,170	8,861	829	186	1,041	0	5,082	5,363	1,838	66,985	150	66	8,983	—	—	2,621	71	1,687	2,217	1,462	540	1,472	454	2,297
June	975	10,386	1,557	168	509	10	4,605	4,985	1,781				11,951	—	—	2,106	137		6,500	905	500	2,604	1,031	1,608
July	948	—	1,495	308	774	4	—	7,667	1,543				12,093	—	—	1,248	62		—	1,139	384	2,973	1,065	915
Aug.	847	—	1,405	392	685	—	—	6,073	1,248	94,596	99	29	20,058	—	—	2,154	49	1,843	—	980	664	2,158	862	845
Sept.	921	—	1,647	309	802	—	—	5,570	926				19,158	—	—	1,336	63		—	980	1,035	2,076	841	826
Oct.	825	—	1,621	201	785	—	—	6,762	917				26,185	—	—	1,784	32		—	1,268	1,652	1,945	1,169	1,171[1]
Nov.	1,183	—	881	95	702	—	—	6,552	1,045	49,420	—	910	23,473	—	—	1,053	53	2,216	—	953	1,467	1,004	396	1,271[1]
Dec.	791	—	605	53	229	—	—	9,100	929				13,889	—	—	214	15		—	498	2,240	557	239	357[1]
Total	12,054	—	15,897	2,256	7,601	—	—	65,568	13,843	256,284	—	—	177,853	—	—	18,287	812	6,930	—	12,719	9,370	22,327	8,006	15,795[1]
1924																								
Jan.	—	—	365	182	449	—	—	—	—				—	—	—	—	—		—	1001	2,192	436	264	2,920[1]
Feb.	—	—	215	30	499	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	659	174	684[1]
March	—	—	359	—	—	—	—	—	—				—	—	—	—	—		—	—	—	474	—	—

[1] Provisional figures.

The sign * signifies " no figures published ". The sign — signifies " figures not yet received ".

TABLE II. OVERSEA IMMIGRATION OF NATIONALS OR INTENDING FOREIGN RESIDENTS

[1] Provisional figures.
The sign * signifies "no figures published". The sign — signifies "figures not yet received".

TABLE II. OVERSEA IMMIGRATION OF NATIONALS OR INTENDING FOREIGN RESIDENTS

Period	South Africa	Belgium	Canada	Spain	United States	Great Britain	Hungary	Italy	Japan	Malaya	New Zealand	Norway	Poland	Roumania	Czecho-slovakia
1920	*	11,839	67,680	94,189	556,996	86,055	*	77,599	*	*	44,400	*	70,000	*	*
1921	21,880	11,834	100,418	76,439	460,828	71,367	1,709	92,212	*	45,673	16,323	3,516	78,827	2,546	*
1922															
Jan.		217	1,442	2,809	11,704			2,784	1,113	1,498	982	69	207	98	*
Feb.		146	1,105	2,626	6,480	11,315	206	2,298	702	2,766	1,887	138	2,593	74	*
March		259	2,878	4,074	9,746			3,627	1,499	4,164	1,155	249	280	147	*
April	7,891	309	3,330	4,026	11,714			5,433	1,181	3,912	1,496	308	329	136	*
May		286	8,333	6,103	16,518	25,434	497	5,411	1,023	5,362	858	172	2,754	172	*
June		394	5,004	8,605	15,628			6,560	657	9,936	693	244	241	143	*
July		290	5,733	7,721	31,475			6,154	938	7,379	433	184	326	244	*
Aug.	937	180	4,060	6,081	33,293	18,045	240	5,401	863	5,396	550	368	312	157	*
Sept.	1,129	143	4,822	2,467	39,265			4,985	1,570	5,921	1,191	417	224	66	*
Oct.	1,169	146	4,579	1,856	42,098			3,411	1,167	3,968	1,050	375	116	211	*
Nov.	1,257	185	2,972	1,784	39,315	13,232	79	4,357	2,052	3,137	850	107	125	124	*
Dec.	1,028	136	2,423	1,992	24,115			4,181	1,647	5,235	1,004	57	101	90	*
Total	13,411	2,691	46,690	50,144	281,351	68,026	1,022	54,602	14,412	58,674	12,149	2,659	11,116[1]	1,662	*
1923															
Jan.	1,233	85	1,960	1,167	17,540			1,096	—	—	1,585	52		78	52
Feb.	968	0	2,567	1,331	17,207	9,333	45	1,954	—	—	716	116	2,433	53	70
March	803	73	5,086	2,734	26,523			3,019	—	—	497	168		35	133
April	1,068	133	7,360	2,724	28,909			2,923	—	—	623	194		53	191
May	1,023	187	15,618	4,303	25,639	21,182	70	3,516	—	—	794	130	1,219	57	180
June	970	242	11,601	5,614	16,761			4,178	—	—	520	136		34	182
July	800	116	12,112	—	60,248			3,614	—	—	402	168		118	174
Aug.	812	174	22,557	—	63,568	14,548	77	3,969	—	—	742	342	—	35	182
Sept.	916	146	12,030	—	64,677			2,629	—	—	424	396		15	137
Oct.	1,142	149	10,330	—	66,039			3,957	—	—	1,657	341		91	101[2]
Nov.	1,294	114	10,276	—	66,895	12,543	—	3,974	—	—	827	104	—	18	103[2]
Dec.	998	136	5,514	—	34,051			4,851	—	—	1,392	26		106	22[2]
Total	12,027	1,555	117,011	—	487,057	57,606	—	39,680	—	—	9,979	2,173	—	693	1,527[2]
1924															
Jan.	—	54	3,495	—	—			—	—	—	—	—		131	—
Feb.	—	37	5,115	—	—	—	—	—	—	—	—	—	—	—	—
March	—	—	—	—	—			—	—	—	—	—		—	—

[1] This figure includes 3,508 returned emigrants for whom the month of return is not stated.
[2] Provisional figures.
The sign * signifies "no figures published". The sign — signifies "figures not yet received".

TABLE III. CONTINENTAL EMIGRATION OF NATIONALS OR FOREIGN RESIDENTS

Period	United States	France	India	Italy	New Zealand	Poland	Roumania	Czechoslovakia
1920	14,274	12,151	*	153,717	*	26,846	*	16,478
1921	11,116	62,536	*	60,846	*	12,129	9,199	16,350
1922								
Jan.	623			5,125	75	436	658	1,346
Feb.	505		*	5,698	212	1,318	623	1,331
March	404			12,047		1,764	1,128	1,990
April	1,024			14,470	152	2,002	856	1,956
May	615		*	13,479	130	1,765	641	2,042
June	705			9,474	138	3,017	387	1,677
July	524			8,486	93	3,636	487	1,601
Aug.	494		*	10,928	99	3,401	1,195	1,549
Sept.	432			11,787	129	3,642	969	1,560
Oct.	477			11,391	86	3,254	1,810	1,488
Nov.	524		*	9,859	93	2,117	2,242	1,093
Dec.	517			9,286	154	3,175	1,283	864
Total	6,844	50,309		123,030	1,361	28,927	12,279	18,497
1923								
Jan.	455	6,526		10,896	92		252	1,148
Feb.	335	3,382	*	12,315	184	7,420	313	1,231
March	521	4,030		21,057	141		449	1,435
April	338	3,489		21,641	168		490	2,042
May	389	3,526	21,608	15,642	180	30,636	420	1,973
June	429	4,354		12,739	148		605	1,061
July	374	4,422		12,195	97		395	1,057
Aug.	416	5,286	32,872	9,596	171	—	913	1,779
Sept.	503	5,710		14,786	133		835	1,608
Oct.	529	5,233		13,538	168		1,194	1,204[1]
Nov.	373	4,957	23,917	15,487	100	—	1,557	920[1]
Dec.	380	9,036		10,334	57		518	862[1]
Total	5,042	59,951	—	170,226	1.639	—	7,941	16,320[1]
1924								
Jan.	—	3,689		—	—		451	1,399[1]
Feb.	—	2,890	—	—	—	—	—	1,198[1]
March	—	—		—	—		—	—

[1] Provisional figures.

The sign * signifies " no figures published ". The sign — signifies " figures not yet received ".

TABLE IV. CONTINENTAL IMMIGRATION OF NATIONALS OR INTENDING FOREIGN RESIDENTS

Period	Germany	Canada	United States	France	Italy	New Zealand	Poland	Roumania	Czechoslovakia
1920	*	49,656	142,386	129,803	*	*	560,295	*	*
1921	*	48,059	103,075	24,490	30,083	*	482,320	15,274	*
1922									
Jan.	326	1,003	4,224	—	1,764	225	79,053	1,011	*
Feb.	3,460	1,078	4,312	—	1,502	143	62,539	1,125	*
March	17,369	2,670	5,057	—	1,989	180	61,687	3,429	*
April	14,016	3,268	7,253	—	3,405	169	84,985	1,945	*
May	3,630	2,866	7,651	—	3,026	120	90,045	1,168	*
June	1,158	2,291	9,148	—	3,068	113	92,455	388	*
July	958	2,024	9,766	—	2,950	89	104,042	778	*
Aug.	630	2,559	9,442	—	3,865	150	83,339	724	*
Sept.	882	2,032	10,616	—	4,361	120	70,341	740	*
Oct.	320	1,741	12,031	—	6,462	209	50,295	925	*
Nov.	117	1,259	10,499	—	10,935	74	31,532	823	*
Dec.	32	942	9,817	—	12,314	104	21,579	597	*
Total	42,898	23,733	99,816	181,472	55,641	1,696	831,892	13,663	10,356
1923									
Jan.	68	642	11,233	10,558	2,675	207	4,124	576	492
Feb.	1,717	723	12,911	11,891	2,561	141	2,959	791	389
March	9,442	1,662	16,365	26,330	3,878	159	1,151	2,219	445
April	5,417	2,140	23,524	28,009	3,465	137	1,609	1,187	312
May	1,705	2,149	27,170	29,079	4,169	183	1,695	1,128	414
June	621	2,084	27,405	29,315	5,507	72	2,056	993	362
July	284	1,848	25,294	18,745	5,519	185	—	699	379
Aug.	242	2,692	25,718	25,810	6,762	197	—	974	326
Sept.	116	2,142	24,754	31,701	7,543	110	—	928	121
Oct.	57	1,845	21,989	19,625	8,181	128	—	1,003	503[1]
Nov.	7	1,307	25,887	16,690	14,118	123	—	733	380[1]
Dec.	10	1,075	21,743	15,124	15,120	141	—	958	131[1]
Total	19,686	20,309	263,993	262,877	79,498	1,783	—	12,189	4,254[1]
1924									
Jan.	26	847	—	12,092	—	—	—	1001	—
Feb.	2,938	991	—	16,104	—	—	—	—	—
March	—	—	—	—	—	—	—	—	—

[1] Provisional figures.

The sign * signifies " no figures published ". The sign — signifies " figures not yet received ".

TABLE V. EMIGRATION IN TRANSIT OF NON-RESIDENT FOREIGNERS

Period	Germany	Belgium	Danzig	Great Britain	Italy	Norway	Netherlands
1920	*	28,648	30,578	84,355	17,203	*	36,359
1921	19,422	54,527	32,727	109,248	12,280	340	25,717
1922							
Jan.	1,106	1,340	520		638	16	
Feb.	636	666	603	10,943	586	30	2,085
March	1,102	770	928		1,110	42	
April	1,310	833	1,104		862	41	
May	1,743	894	1,578	18,316	1,114	81	1,440
June	2,447	1,247	1,259		1,098	51	
July	3,818	898	2,581		1,020	53	
Aug.	5,158	1,366	4,716	44,491	1,982	106	3,476
Sept.	6,182	1,134	2,524		1,712	55	
Oct.	5,148	1,137	3,462		1,480	79	
Nov.	6,195	2,194	2,198	21,587	2,148	60	3,535
Dec.	3,538	1,223	3,398		1,579	27	
Total	38,392	13,702	24,871	95,337	15,349	641	
1923							
Jan.	3,328	771	1,773		1,327	65	
Feb.	3,727	747	1,715	14,751	1,136	147	2.999
March	2,662	374	712		1,663	236	
April	2,643	502	1,642		1,708	292	
May	2,103	340	1,055	25,599	1,906	332	3,303
June	4,665	912	1,954		2,381	367	
July	—	1,238	3,361		1,429	387	
Aug.	—	1,774	201	56,286	1,899	360	5,288
Sept.	—	1,568	—		2,436	320	
Oct.	—	3,611	—		2,528	173	
Nov.	—	2,627	—	29,082	1,733	139	5,746
Dec.	—	713	—		1,940	66	
Total	—	15,177	—	125,718	22,086	2,884	17,336
1924							
Jan.	—	458	—		—	—	
Feb.	—	367	—	—	—	—	—
March	—	1,690	—		—	—	

The sign * signifies "no figures published" The sign — signifies "figures not yet received".

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Book Notes

INTERNATIONAL PUBLICATIONS

League of Nations. *Records of the Fourth Assembly. Meetings of the Committees. Minutes of the Fourth Committee (Budget and Financial Questions).* Official Journal. Special Supplement No. 17. Geneva, 1923. 312 pp.

—— **Committee on Intellectual Co-operation.** *Enquiry into the Conditions of Intellectual Work.* Geneva, 1923-1924.

This collection, which will shortly be completed, summarises the results of the enquiry instigated by the Council of the League of Nations towards the end of 1922, the object of which was to examine the conditions of intellectual work in general in the various countries with a view to setting forth the problems of international organisation and co-operation raised.

The collection contains, first, some general studies among which the following have been published: (1) *Observations sur la méthode d'une statistique de la vie intellectuelle* (10 pp.) and (2) *Observations sur quelques problèmes de l'organisation intellectuelle internationale* (44 pp.) by Mr. Julien Luchaire; (3) *The conditions of life and work of Musicians*, Vol. I, 48 pp., by Mr. William Martin; (3*b*) *Les échanges internationaux de publications* (42 pp.), by Mr. O. de Halecki. The collection includes a large number of monographs on the conditions of intellectual life in various countries, one or more pamphlets being devoted to each.

The enquiry into the conditions of life and work of musicians, which raises various questions connected with labour and trade union organisation, was entrusted to the International Labour Office. Mr. William Martin, under whose direction the investigation has been carried out, points out in an introductory note that the social character of the musical profession makes it particularly sensitive to economic and general conditions, and that a special interest attaches to this monograph since it throws into prominence the reaction of a general economic crisis on civilisation itself in one of its highest manifestations. The following countries are reviewed in the first volume: Germany, Austria, Hungary, Italy and Poland.

International Labour Office. *Factory Inspection. Historical Development and Present Organisation in certain Countries.* Geneva, 1923. 316 pp. 5s.; $1.20.

The determination of general principles for the organisation of factory inspection was the subject of the deliberations of the Fifth Session of the International Labour Conference held at Geneva, 22-29 October 1923. A report embodying the replies of the Governments to the questionnaires circulated to them was submitted to the Delegates together with a series of surveys of factory inspection in twenty-four countries, issued in proof, with a view to obtaining comment and criticism and providing a basis for any resolutions which might be adopted. Many of the Delegates, responding to the invitation proffered, have assisted in the completion and amendment of the original surveys for the final edition now published by the International Labour Office in English, French and German. Since the Conference, information on factory inspection in Uruguay has been received, bringing the number of countries covered up to twenty-five. A list of sources (other than the texts of labour laws, orders, regulations and annual reports on factory inspection for each country) is included.

—— *Industrial Hygiene and Safety and the International Labour Organisation. Papers read at the Conference on the International Labour Organisation and Industrial Health, organised by the League of Nations Union of Great Britain, and held in London 19 and 20 June 1923.* Studies and Reports, Series F (Industrial Hygiene), No. 9. Geneva, December 1923. 60 pp. 2s., 40 cents.

Although attended by a number of representatives from other countries than Great Britain the Conference at which the papers included in this pamphlet were read was national and not international. The importance of the subjects discussed, however, seems to warrant the international circulation of the papers. The International Labour Office is indebted to the League of Nations Union for permission to publish them. They deal with the following subjects: "Safety and Protection in Industry", by Lt. Col. J. A. A. Pickard, D.S.O., M.Inst. M.I.A.E.; "The Safeguarding of Industrial Machinery", by Mr. G. Stevenson Taylor, C.B.E.; "International Co-operation in the Study of Industrial Fatigue", by D.R. Wilson, M.A.; two papers on "Industrial Diseases and Injurious Processes", contributed respectively by Dr. T. M. Legge, C.B.E., M.D., and Professor E. L. Collis; and, finally, "Women Workers' Health", by Miss Constance Smith, O.B.E.

—— *Hours of Labour in Industry. Netherlands.* Studies and Reports, Series D (Wages and Hours), No. 11. Geneva, December 1923. 31 pp. 1s.; 20 cents.

—— *Laying of the Foundation Stone. Speeches made at the Ceremony on 21 October 1923.* Geneva. 32 pp.

—— *Les Conseils d'entreprise en Allemagne.* By Marcel BERTHELOT. Studies and Reports, Series B (Economic Conditions), No. 13. Geneva, February 1924. IV + 140 pp. 3 frs. (Swiss), 6 frs. (French).

—— *The Protection of Eyesight in Industry. Problems of Industrial Lighting.* Studies and Reports, Series F (Industrial Hygiene), No. 6. Geneva, June 1923. 158 pp. 2s. 6d.; 50 cents.

A note on the French edition of this study appeared in the November 1923 number of the *Review* (Vol. VIII, No. 5, p. 773).

International Federation of Trade Unions. *Second Statistical Year Book 1923-1924.* Amsterdam. 237 pp.

The year book of the International Federation of Trade Unions contains the addresses of the affiliated national centres and international trade federations, membership and addresses of organisations affiliated to them, and the addresses of organisations affiliated to the young workers', the co-operative, and the women workers' international federations. It gives also a list of organisations grouped according to tendencies, a table showing the position of the trade union movement in 1921 and 1922, and a financial statement for the period 1919 to 1921 in respect of the national centres and affiliated organisations. The year book is published in French, German and English.

—— *International Workers' Education (Embodying Report of the International Conference on Women's Education held at Brussels 16-17 Aug. 1922).* Amsterdam, 1924. 119 pp.

This book furnishes valuable data concerning workers' education in fifteen countries.

International Federation of Lithographers, Printers, and Similar Trades. *Annual Report for 1922.* Bern, Unionsdruckerei, 1923.

General report and financial statement of the printers' international federation for 1922, together with the addresses of the affiliated organisations, and various particulars of the collective agreements in force in certain countries.

OFFICIAL PUBLICATIONS

AUSTRALIA

TASMANIA

Industrial Department. *Eighth Annual Report for 1922-23 on Factories, Wages, Boards, Shops, etc.* By Henry REYNOLDS. Chief Inspector of Factories. Hobart, John Vail, Govt. Printer, 1923. 35 pp.

AUSTRIA

Bundesminister für soziale Verwaltung. *Bericht des Vorstandes der Arbeiter-Unfallversicherungsanstalt für Niederösterreich in Wien über die 33. Gebarungsperiode, d. i. die Zeit vom 1. Januar bis 31 Dezember 1922.* Vienna, 1923. 28 pp.

Report on industrial accident insurance in Austria.

CANADA

Department of Labour. *Report for the fiscal year ending 31 March 1923.* Sessional Paper No. 26. Ottawa, F. A. Acland, 1923. 135 pp.

CHILE

Oficina del Trabajo. *Los organismos técnicos del trabajo.* By Moisés Poblete Troncoso. Boletin de la Oficina del Trabajo No. 20. Santiago de Chile, 1923. 431 pp.

A reprint of an important study by the Director of the Chilean Ministry of Labour which appeared in the Bulletin of the Ministry, No. 20. It describes the organisation of the Ministries of Labour in the principal countries of the world, and particularly that of Chile. It dwells, in particular, on the Labour Inspection services and the Labour Councils which exist in various countries. A chapter is devoted to the International Labour Organisation. Mr. Troncoso gives a general survey of the Organisation and of the chief services of the International Labour Office ; he concludes with an appreciative commentary on the work accomplished by the Office and the International Labour Conferences. The study is one of the most comprehensive works on official institutions dealing with labour and the International Labour Office yet published in South America, and should contribute in a large measure to a better understanding in Spanish-speaking countries of the nature and scope of the task undertaken by the Office.

ESTHONIA

Riigi Statistika Keskbüroo Väljaanne. *Sugemed Vigaste Laste Kohta Eestis.* Reval, 1923. 151 pp.

This statistical report embodies the results of an inquiry undertaken by the Central Office of Statistics, in connection with the question of public assistance, into the number of crippled children in Esthonia and the nature of their infirmity. It is in four parts. The first describes what has already been accomplished in regard to the provision of hospital treatment and facilities for learning a trade ; the second describes the methods of enquiry adopted and gives the questionnaire used ; the third explains the classification of the data collected and contains some general considerations regarding the prevalence of certain deformities or diseases, their cause, distribution according to sex, district, and nationality ; treatment, education, and vocational possibilities for crippled children ; occupation and earnings of parents, number of children in family, etc. The fourth summarises the information gathered, and the conclusions drawn, and furnishes a bibliography. A large number of statistical tables and some illustrations and diagrams are included as well as a summary in French.

FINLAND

Asutushallitus (Kolonisationsstyrelsen). *Asutustilallisten Toimeentulomahdollisuuksista Suomessa. (Om Kolonisternas Utkomstmöjligheter i Finland.)* By E. Cajander. Helsingfors, 1923. 77 pp.

Report on home colonisation and the prospects of settlers.

GREAT BRITAIN

Inter-Departmental Committee on Public Assistance Administration. *Report of the Committee on the Co-ordination of Administrative and Executive Arrangements for the Grant of Assistance from Public Funds on account of Sickness, Destitution and Unemployment.* London, H. M. Stationery Office, 1924. 167 pp.

The committee was not asked to suggest any legislative changes, but merely to investigate administrative co-ordination between the various schemes of public

assistance and insurance. No criticism is made of the general principles of present legislation, or of its adequacy as a means of preventing destitution. The field of the enquiry was limited, first, to examining the points of contact between the various schemes of public assistance and insurance, in order to see what obstacles might be encountered in passing from the scope of one scheme to that of another, and, secondly, to considering the possibility of the simultaneous receipt by one person of benefit under several schemes.

The Report shows clearly that the various schemes of public assistance and insurance, originating as they have done, in Acts of Parliament, each of which was planned independently, do not form a single and closely co-ordinated system. On the other hand, it appears that there is little ground for the opinion that the administrative arrangements of the several schemes do not crrry out the intentions of Parliament. Consequently, the suggestions made are of a comparatively unimportant character, affecting mainly the exchange of information between the authorities administering the different schemes.

To the lay reader the Report has great value on account of the summaries which it contains of all the forms — and they are many — of public assistance and insurance.

Medical Research Council. Industrial Fatigue Research Board. *A Comparison of Different Shift Systems in the Glass Trade.* By E. FARMER, M. A. (Report on an investigation promoted by the Industrial Fatigue Research Board and the Glass Research Association). Report No. 24. London, 1924. IV + 24 pp. 1s. 6d.

A summary of this report was published in *Industrial and Labour Information*, Vol. IX, p. 193.

SCOTLAND

Census of Scotland 1921. *Report on the Thirteenth Decennial Census of Scotland.* Vol. II. Edinburgh, H. M. Stationery Office, 1923. LV + 271 + 47 pp. £1.

INDIA

Women's Labour in Bengal Industries. By Dagmar F. CURJEL, M.D. (Glasg.), D.P.H. (Camb.), Women's Medical Service, India. Bulletins on Indian Industries and Labour, No. 31. Calcutta, Superintendent Govt. Printing, 1923. v + 44 pp. 8 annas.

The study is a result of an investigation conducted in Bengal industries from November 1921 to October 1922, with a view to determining the influence which industrial work might exert on the health of the Indian woman worker, especially during the child-bearing age, and on the well-being of the child. The investigation deals fully with the working conditions of women workers in jute and cotton mills round Calcutta (44,705 and 1,550 women), on the Bengal coalfields (15,930 women), and in other industries (2,784 women), as well as with those in the tea districts.

While stating that it would undoubtedly be better for the health of the mother and child if women workers did not undertake industrial work for six weeks before and after confinement, as laid down in the Washington Convention of the International Labour Organisation, the author points out that in the absence of adequate support or maternity benefit during the period of abstention from work such limitation would have no practical application for women mill-workers in Bengal, and she therefore outlines a scheme of medical care of women workers based on health inspection.

Department of Mines. *Report of the Chief Inspector of Mines in India under the Indian Mines Act (VIII of 1901) for the year ending 31 December 1922.* By D. PENMAN, B.Sc. (Hons.), M.I.M.E. Calcutta, 1923. v + 126 pp. 3 rupees.

MADRAS

Fisheries Department. *Administration Report for the year ending 30 June 1923.* By James HORNELL, F.L.S., F.R.A.I., Director of Fisheries. No. 1590, Development, 2 Nov. 1923. Madras, 33 pp.

ITALY

Opera Nazionale per la Protezione e la Assistenza degli Invalidi della Guerra. *La Cooperazione e gli Invalidi della Guerra.* Rome, Cooperativa tipografica "Castaldi", 1923. 129 pp.

Ex-Service men and co-operation in Italy.

LUXEMBURG

Office de Statistique. *Annuaire Officiel, 1924 (15e année).* Luxemburg, Imprimerie de la cour Victor Buck, 1924. XXXIX + 560 pp.

NETHERLANDS

Departement van Arbeid, Handel en Nijverheid. *Uittreksel uit het Verslag van den Hoofdingenieur voor het Stoomwezen over de jaren 1921 en 1922.* The Hague, Algemeene Landsdrukkerij, 1923. 77 pp.

Report of the Chief Engineer on steam boilers (1921-1922) published by the Department of Labour, Commerce and Industry.

—— *Verslag over het Haventoezicht uitgeoefend in 1922.* The Hague, Algemeene Landsdrukkerij, 1923. VIII + 90 pp.

This report on the inspection of employment in ports in the Netherlands is analysed above under the heading *Reports and Enquiries.*

NEW ZEALAND

Apprenticeship Question (New Zealand) 1923. Wellington, Govt. Printer, 1923. 89 pp.

This volume includes précis of the proceedings at two conferences of representatives of employers, workers, the Education Department, and the Department of Labour, on the subject of the Government's proposed Apprenticeship Bill, the text of which is given. The report of a committee appointed by these conferences, the text of the Apprentices Act 1923 as finally adopted, and explanatory notes on the Act are also included.

NORWAY

Chefinspektoren for Fabrikktilsynet. *Arsberetninger fra Arbeidsradet og Fabriktilsynet 1922.* Christiana, O. Christiansens Boktrykkeri, 1923. 78 pp., illus.

The Norwegian industrial inspection report for 1922.

UNITED STATES

Civil Service Commission. *Fortieth Annual Report for the fiscal year ended 30 June 1923.* Washington, Govt. Printing Office, 1923. C pp.

Department of the Interior. Bureau of Mines. *Coke-Oven Accidents in the United States during the calendar year 1922.* By William W. ADAMS. Technical Paper 349. Washington, Govt. Printing Office, 1923. 37 pp.

———— *Erection of Barricades during Mine Fires or after Explosions.* By J. W. PAUL, B. O. PICKARD, and M. W. von BERNEWITZ. Miners' Circular 25. Washington, Govt. Printing Office, 1923. 28 pp.

———— *Self-contained Mine Rescue Oxygen Breathing Apparatus. A Handbook for Miners.* By D. J. PARKER, G. S. MCCAA and E. H. DENNY. Washington, Govt. Printing Office, 1923. XIV + 139 pp.

———— *Smoke Abatement.* By Osborn MONNETT. Technical Paper 273. Washington, Govt. Printing Office, 1923. 30 pp.

———— *Thirteenth Annual Report for the fiscal year ended 30 June 1923.* Washington, Govt. Printing Office, 1923. 21 pp.

———— *Uses of Water in the Oil-Shale Industry with particular reference to Engineering Requirements.* By J. J. JAKOSKY. *With a chapter on the Sanitation of Oil-Shale Camps,* by A. L. MURRAY. Washington, Govt. Printing Office, 1923. VI + 57 pp.

Department of Labour. Bureau of Labour Statistics. *Safety Code for the Construction, Care and Use of Ladders.* Bulletin No. 351. Washington, Govt. Printing Office, 1923. 15 pp.

The ladder safety code represents a tentative American standard elaborated by the American Society of Safety Engineers at the request of the American Engineering Standards Committee. In the rules set forth in this standard regarding the necessary equipment for the work to be performed are specified the materials, dimensions and methods of construction. A list of woods, classified into four groups on the basis of their mechanical properties considered from the standpoint of use for ladder construction, is given, together with the sizes in which the different species may be substituted for spruce in side rails.

The tests to be applied to ensure adequate rigidity and proper construction are clearly defined and may be easily carried out. Other specifications relate to installation (pitch, fastenings, maintenance, etc.) and safe practices.

The rules laid down are designed to apply to every establishment or working condition which requires the use of the equipment covered by them.

——— *Trade Agreement in the Silk-Ribbon Industry of New York City.* By Margaret GADSBY. Bulletin No. 341. Washington, Govt. Printing Office, 1923. 95 pp.

—— **Children's Bureau.** *Unemployment and Child Welfare. A study made in a middle-eastern and an eastern city during the industrial depression of 1921 and 1922.* By Emma O. LUNDBERG. Washington, Govt. Printing Office, 1923. 173 pp.

The conditions of life in families affected by unemployment in Racine (Wisconsin) and Springfield (Mass.) are dealt with in great statistical and descriptive detail. Much information is given relating to sources of livehood, duration of unemployment, financial losses, increase of illness, and general effect on child welfare, for the families within the scope of the enquiry.

—— **Employment Service.** *A special Survey of forty-four States based on information received from Federal-State Directors of the U. S. Employment Service and Commissioners of Labour, showing Present Employment Conditions of the Country and the General, Industrial and Agricultural Employment Prospects for 1924.* Washington, Govt. Printing Office, 1924. 15 pp.

Federal Board for Vocational Education. *Seventh Annual Report to Congress* Washington, Govt. Printing Office, 1923. 186 pp. 15 cents.

The report of the Federal Board for 1923 is contained in a much smaller volume than those for previous years, chiefly owing to the elimination of the separate reports from each State. Vocational education and rehabilitation are organised entirely by the various States; the Federal Board disburses the Federal funds in aid of the State work, sees that the conditions of the Federal Act are fulfilled, and acts as a co-ordinating and advisory body. In this year's report an attempt has been made to describe the general objects and tendencies of policy in vocational education and to show its relation to present conditions, in addition to giving the usual facts and figures about the year's work. Points of special interest in the report are the growing realisation of the national importance of agriculture and therefore of agricultural education; the increased enrolment in part-time classes, notably those for miners; the importance and increasing success of home economics education; and the progress made in training for commerce and retail selling.

The section devoted to the work of the Civilian Vocational Rehabilitation Division shows that this branch of the Board's activities is steadily emerging from the stage of experiment and proving that it has a very considerable economic as well as humanitarian value. An important feature is the organised co-operation in each State between all the agencies which can help in restoring the disabled to industry as efficient economic units.

Secretary of Labour. *Eleventh Annual Report for the fiscal year ended 30 June 1923.* Washington, Govt. Printing Office, 1923. v + 149 pp.

The Secretary of Labour's report for 1923 covers the work of the following departments: the Bureaux of Labour Statistics, Immigration, Naturalisation,

Industrial Housing and Transportation (U. S. Housing Corporation), the Children's and the Women's Bureaux, the Division of Conciliation and the U. S. Employment Service. The creation of the Department of Labour was due to the growing appreciation of the importance of the human factor in America's general scheme of political and economic life ; its purpose as defined in the act of creation is " to foster, promote and develop the welfare of the wage earners of the United States, to improve their working conditions, and to advance their opportunities for profitable employment ". The report points out that the community of interest which exists between the employer and the worker will operate to adjust disputes if it can be kept before the representatives of both sides, and shows how, acting on this principle, the Conciliation Service has been instrumental in adjusting about 90 per cent. of the industrial disputes submitted to it and in furthering the cause of ultimate industrial peace. An important part of the report is devoted to the ebb and flow in the tide of immigration since 1820 ; tables and charts prepared by the Bureau of Labour Statistics are included in the appendices. A careful consideration of the facts and conditions relating to immigration and naturalisation leads to certain recommendations, the chief being the enactment of an alien code the principal features of which are outlined. Other recommendations made by the Secretary of Labour relate to the setting up of machinery for the expeditious settlement of minor disputes between the management of railroads and their employees, the extension of the activities of the Department of Labour as regards the improvement of working conditions, particularly of women and children in industry and of migratory workers, the limitation of child labour, the encouragement of the work of the Federal Board for Vocational Education, the extension of the maternity and infancy Acts to the island possessions of the United States, the procedure of Federal Courts in children's cases, and, finally the collection of data pertaining to the occupational progress of women wage earners and their economic and social status with a view to the formulation of policies and standards.

Accounts of the valuable research work and publications of the Bureau of Labour Statistics are included in the pages devoted to the work of that department.

Secretary of the Interior. *Annual Report for the fiscal year ended 30 June 1923.* Washington, Govt. Printing Office, 1923. x + 155 pp.

CALIFORNIA

Board of Education. *Report of the Commissioner of Industrial and Vocational Education for the Biennial Period ending 30 June 1922.* Sacramento, California State Printing Office. Part I, 80 pp., 1923. Part II, 35 pp., 1922.

Part I deals with the development of vocational education in California and with adult education, which in that State includes elementary classes for native illiterates and immigrants, and supplementary vocational courses for employed persons. Part II deals with vocational rehabilitation of disabled persons. This department has been at work in California for only one year, but considerable development is expected.

—— *Vocational Education ; Compulsory Part-time Education.* Bulletin No. 23, P-T. E. Sacramento, California State Printing Office, 1923. 58 pp.

An analysis and explanation of the California part-time education Act for the use of teachers, school authorities, employers, and others.

OHIO

Department of Industrial Relations. *First Annual Report for the fiscal year, 1 July 1921 to 30 June 1922.* Columbus, Ohio, The F. J. Heer Printing Co., 1923. 49 pp.

The duties of the Department of Industrial Relations as defined in the reorganisation law which became effective 1 July 1921 are to render awards under the provisions of the workmen's compensation law and to determine and adopt standards and devices as a means of protection, to reduce or eliminate the hazards incident to industry.

The Report of the Department, arranged by divisions, is in five parts: (1) the Workmen's Compensation Division, sub-divided into the Claims, Auditing, and Actuarial Sections; much of the information furnished in this part is tabulated; (2) the Division of Factory Inspection, which records the number of factory inspections made, orders issued for changes and improvements relative to safety and sanitation, and other duties carried out by the Division; (3) The Division of Mines; the outstanding achievement of this Division for the year was the installation of five equipment rescue stations at the most accessible points to the principal mining districts of the State; (4) the Division of Labour Statistics, to which is assigned the work of labour statistics compilation, free employment bureaux, mediation and conciliation; (5) the Division of Boiler Inspection and Examiners of Engineers. A financial statement completes the report.

WASHINGTON

Department of Labour and Industries. *Safety Standards effective 1 January, 1924.* Olympia, Frank M. Lamborn, Public Printer, 1924. 96 pp.

NON-OFFICIAL PUBLICATIONS

Association of Certifying Factory Surgeons. *Report of the Council 1922-23.* Manchester, Co-operative Printing Society, 1924. 14 pp.

Bonnevie, Carl. *Sociale synspunkter. Socialpolitiske studier i Tyksland.* Christiania, H. Aschoug and Co., 1923. 103 pp.

Starting from his impressions of the socio-political development of Germany after the revolution, which as Norwegian Social Attaché in Berlin he has studied closely for several years and described in numerous official reports published in "Sociale Meddelelser", the organ of the Norwegian Ministry of Social Affairs, the author, a lawyer, gives at houghtful survey of present day problems of interest to the labour movement and social policy in his own country. Reference may be made to the following chapter headings: reform-revolution; class-war and the community; tendencies — the Weimar Constitution; the family, marriage and the state; the fundamental principles of working class economic policy; the social organisation of industry, socialisation.

De Brouckère, Louis. *Le contrôle ouvrier.* Cahiers de la Commission syndicale de Belgique. January, 1924. 75 pp.

Report published in view of the Extraordinary Congress of the *Commission syndicale de Belgique* held 17 February 1924. After showing how the conception of workers' control has gradually developed, the author outlines the various economic theories which concern the rights of labour and the changes in the position of the workers since the beginning of large scale industries. Through the trade unions the workers pushed forward definite claims, agreements were signed, collective agreements became general, and closer relations between the management and the representatives of the workers resulted. Since the war joint committees have been established in most countries. In some these committees have been strengthened by the creation of works councils. One part of the report is devoted to a critical examination of the composition, working and functions of these organs, The last chapter deals with the participation of workers in the management of undertakings and some suggestions in this connection are made. The appendices contain the German, Austrian and Czechoslovak laws relating to works councils.

Bureau Central de Bienfaisance. *Cinquante-septième rapport annuel du 1er octobre 1922 au 30 septembre 1923.* Geneva. 82 pp.

Fifty-seventh annual report of the charity organisation central office (Bureau Central de Bienfaisance), Geneva, 1 October 1922 to 30 September 1923.

Cazalis, Emile. *Les positions sociales du syndicalisme ouvrier en France.* Paris, Les presses universitaires de France, 1923. 236 pp.

After outlining the main features of trade unionism in France, Mr. Cazalis examines the various tendencies of the labour movement in that country, traces

its evolution since the war, and describes the crisis which led to the split in the *Confédération Générale du Travail*, and the present position of the two federations, C. G. T. and C. G. T. U. (*Confédération Générale du Travail Unitaire*). A chapter is devoted to other trade union groups, the *Confédération des Travailleurs chrétiens*, the *Confédération nationale du Travail*, etc. Lastly, the author considers trade unionism in relation to home policy and international politics.

Comish, Newel Howland. *The Standard of Living.* New York, The Macmillan Company, 1923. 340 pp.

A discursive account of the numerous elements entering into consumption, particularly the motives, laws, aims, standards and methods which determine the habits of buying and selling.

Diez Gasca, Maria. *La scelta del mestiere.* Bologna, Zanicheili, 1923. 131 pp.

The author has brought together in this volume the data collected in Italy and other countries concerning vocational guidance. Her book is a clear and comprehensive survey of the subject. In the first chapter, mainly historical, Mrs. Diez Gasca considers vocational guidance and the competition of individual ability, a recognised principle of Fascist trade unionism. The last chapter deals with the vocational guidance of women and includes statistics relating to women employed in industrial undertakings, arranged by district and by trade, and the distribution by trade of the Italian population over 10 years of age.

East, Edward M. *Mankind at the Crossroads.* New York, Charles Scribner's Sons, 1923. VIII + 360 pp.

This book contains a study of the facts of the growth of population and of agricultural economics. The author considers that a first-aid remedy for some of the ills of the body politic is to be found " in the control of human reproduction, the freedom of the family to build firmly for the next generation by intent rather than by hazard, the opportunity of fulfilling the social responsibility of the individual to family and to nation with due regard for the health of the mother, the efficiency of the father, the welfare of the children, and the stamina of the race ". The author does not believe that industrial progress will afford permanent relief from the tendency towards over-population. Man, he considers, " is now at the parting of the ways with a choice of controlling his own destiny, or being tossed about until the end of time by the blind forces of environment. "

Elster, Alexander. *Sozialbiologie.* Berlin, W. de Gruyter, 1923. VII + 483 pp.

A statement of factsand problems relating to population, hygiene and eugenics. Future measures of social reform should, in the author's opinion, be based on the results of research in these fields.

Furst, Th. *Arbetarskydd och Arbetarskyddslagstiftning.* Folkets Studiehandbok 13, utgiven av Oscar Olsson. Stockholm, O. Eklund, 1923. 103 pp., chart.

This little book is devised for the use of study circles. After a brief introductory note on the development of production from individual effort for self-supply to large-scale industry, the greater part of the work is devoted to industrial risks to life and limb, precautions against them, and workers' insurance against accident, sickness, invalidity and old age. A list of references (including the principal laws in force on the subjects discussed) is given.

Hahn, W. and Lilienfels-Taal, A. V. *Der Neue Kurs in Russland. Wirtschaftsgesetze der Sowjetregierung.* Herausgegeben vom Institut für Weltswirtschaft und Seeverkehr an der Universität Kiel. Jena, 1923. 107 pp.

A work containing a large number of the laws relating to industry, labour, agriculture, finance, and trade, published in Soviet Russia from the inauguration of the new economic policy to the end of 1922. The matter is arranged in two parts, both of which are valuable for reference ; the second gives a clearer general idea of the new Russian policy.

Hansson, Sigfrid. *Den svenska fackföreningsrörelsen.* Tidens Förlag. Landsorganisationens skriftserie IX. Stockholm, 1923. 335 pp.

A serious gap in Swedish trade union literature has now been remedied by the issue of two valuable works by Mr. Sigfrid Hansson, editor of *Fackföreningsrörelsen*,

the organ of the Confederation of Trade Unions. One is the historical survey drawn up on the occasion of the 25th anniversary of the Confederation (1 January 1924); the second, *Den svenska fackföreningsrörelsen*, a detailed report of the present development, organisation, administration, and working methods of the trade union movement, its attitude towards Socialism, particularly its relation to the Swedish Social-democratic Labour Party, its international relations, etc. The author also deals exhaustively with the measures adopted or proposed for the prevention or settlement of strikes in Sweden since the middle of the 18th century and the present system of conciliation which, he states, " has contributed largely towards preventing stoppages of work ". A chapter of great interest deals with collective agreements.

Numerous statistical tables and graphs are included and a detailed bibliography is given at the close of each chapter for reference in study circles.

Hewes, Amy. *Trade Union Development in Soviet Russia.* Reprinted from the *American Economic Review*, Vol. XIII, 4 Dec. 1923, pp. 618-637.

A well-documented article based on information contained in soviet publications and in the International Labour Office's " Industrial and Labour Information ". It gives a clear outline of the evolution of the trade union movement and of the policy of the trade unions in Russia before and since the revolution of 1917.

Indian Merchants' Chamber. *Annual Report for the year 1922.* Bombay, 1923 XLVII + 562 pp.

Among the most important matters which engaged the attention of the Committee of the Indian Merchants' Chamber during 1922 and which are touched upon in this report are: workmen's compensation, public employment agencies, the Workmen's Breach of Contract Act as amended by the Act of 1920 and the question of its repeal, the registration of trade unions, and the treatment of Indians in the Colonies. The text of correspondence with the Government wherein are expressed the views of the Indian Government and the opinions of the Committee on various subjects, including the ratification of some of the Draft Conventions and recommendations of the Washington Labour Conference, is given in the appendices.

Industrial Welfare Society. *Memorandum on Accident Prevention.* London. 22 + VIII pp. with illustrations, tables, and charts.

Jahrbuch des Allgemeinen Deutschen Gewerkschaftsbundes für das Jahr 1922. Berlin, 1923. 256 pp. 1.55 gold marks.

In addition to the report of the General Federation of German Trade Unions for 1922 this year book contains a survey of the trade union movement and valuable data concerning social questions such as unemployment, wages, and social legislation.

Joseph, H. W. B. *The Labour Theory of Value in Karl Marx.* London, Oxford University Press, 1923. 176 pp.

A book written from the standpoint that the theory which finds an absolute measure of value for things in the labour embodied in them is fundamentally false, and that the widespread acceptance of it among the " labouring classes " is doubly mischievous inasmuch as it concentrates their justified resentment at the working of the economic order upon one definite alleged injustice, while exasperating those whom they attack by the illogicality of the particular allegation, The writer, in addition to attacking the Marxian theory of value along the well-known lines, finds a number of new points on which to accuse it of complete lack of logic.

Keynes, J. M. *A Tract on Monetary Reform.* London, The Macmillan Company 1923. 209 pp.

This book consists of a lucid analysis of the monetary problems which have arisen during the last few years, and a number of suggestions for solving them. With the exception of one chapter dealing with the theory of money and the exchanges, the treatment is non-technical.

Mr. Keynes shows how the changing value of money besides effecting an unjustifiable redistribution of wealth, discourages trade and production ; for a rising value of money means a falling value of goods, and consequent losses on all stocks held. Unemployment, wage reductions, and general lowering of standards, naturally follow. The effect of inflation, while less disastrous, at least in its early stages, nevertheless results in "profiteering", discourages saving, and overstimulates industry.

Inflation is usually resorted to by impecunious Governments as a convenient means of taxation. It is, however, a patently unjust means, the incidence being entirely upon those members of the community holding titles to money. Mr. Keynes reaches the conclusion that a capital levy is greatly to be preferred when circumstances make it necessary that the burden of the rentier's claim on the productive section of the community be lightened.

In a discussion of possible alternatives in monetary policy, Mr. Keynes gives reasons for thinking that stability of the internal price level is more desirable than the stability of foreign exchange brought about by the pre-war gold standard ; and that, furthermore, with prices stabilised, the foreign exchanges could be stabilised also.

The constructive portion of the book accordingly puts forward suggestions for (1) regulating the supply of currency and credit with a view to maintaining as far as possible the stability of the internal price level, and (2) regulating the supply of foreign exchanges so as to avoid purely temporary fluctuations. How this could be done in Great Britain is explained in some detail. Mr. Keynes shows that the regulation of credit is already in the hands of the Government and the Bank of England, so that by working in conjunction with the five great Banks, they could maintain a stable internal price level. To keep the exchanges steady under such a system he recommends that the Bank of England should regulate the price of gold in much the same way as it at present regulates the rate of discount. In this way temporary and seasonal fluctuations in exchange could be obviated.

In conclusion, some necessary modifications for the application of this plan to other countries are given, with special reference to the United States.

Landauer, Karl. *Grundprobleme der funktionalen Verteilung des Wirtschaftlichen Wertes.* Jena, Gustav Fischer, 1923. 253 pp.

The author examines the problems of the distribution of the national dividend between the different agents of production.

Landsorganisationen i Sverge. *Berättelse over Landsorganisationens verksamhet ar 1922.* Stockholm, 1923. 222 pp.

Report on the activities of the Swedish Federation of Trade Unions during 1922.

Link, Henry C. *Education and Industry.* New York, The Macmillan Company, 1923. 265 pp.

An exhaustive survey of the relations which do and should obtain between the educational system and industry in vocational training. Division of responsibility is particularly considered and the principle suggested is that "those who are most directly and exclusively benefited by any particular educational activity shall bear the final responsibility". The purpose of educational activities carried on by a particular company is described as the development of the ability, interest, and goodwill of the employees, while the object of the work of the educational authorities is primarily the good of the community at large. Keeping these points in mind, the author discusses industrial motion pictures, Americanisation, general education, education versus propaganda, vocational guidance, vestibule schools, trade schools, training of executives and foremen, the educational significance of works councils, sub-normal workers, and the training of salesmen. The conclusion deals with the basis of industrial education, pointing out that all vocational education is not necessarily practical as all academic training is not necessarily impractical. He lays great stress on the value of vocational surveys as a preliminary to the organisation of industrial education.

MacGarr, Llewellyn. *The Rural Community.* New York, The Macmillan Company, 1922. 239 pp.

This book is primarily constructive and is a real contribution to the literature dealing with rural life and its betterment. It is written for Americans, yet, although there is much within its covers which is applicable only to rural conditions in the United States, the author constantly touches on problems which are common to all countries seeking to develop opportunities for the wider and fuller life of their agricultural populations.

The very titles of the chapters in themselves suggest that this study has no restricted application; for instance: strategic importance of agricultural life; contrasts between urban and rural districts; characteristics of rural communities; socially defective individuals in rural communities; constructive economic and social forces in farm life — these and other aspects of the rural community are carefully considered. The educational system is taken as the basis for all progress and many suggestions offered to the teachers in primary and secondary country schools in the United States may be helpful to teachers in countries other than America.

Of very great value are the "questions for further study" which appear at the end of each chapter. These are intended to serve a double purpose: to stimulate country people themselves to realise and define their own needs and to help them to formulate plans for securing a solution of their particular problems. Further, a list of reference works on rural sociology in the particular field under review in each section tends to encourage independent study.

Mariani, E. *Le attuali direttive della politica economica russa. (La N. E. F.)* Rome, La poligraphia nazionale, 1923. 202 pp.

The author has brought together in this volume, without attempting any ordered arrangement or classification, a series of documents and other data relating to the policy of Soviet Russia in regard to foreign trade. He contends that since the introduction of the new economic policy no valid reason can be adduced against a renewal of relations with the Soviet Government. He quotes the declarations of Soviet authorities and of politicians who have recently visited Russia, articles in Italian and other newspapers, and official documents (commercial treaties, etc). On the other hand he furnishes little information concerning the present position of Russian trade.

Milioukow, Paul N. *Russia to-day and to-morrow.* New York, The Macmillan Company, 1922. 392 pp.

Mr. Milioukow, the well-known historian and former Russian Minister for Foreign Affairs under the provisional Government, examines in this book every aspect of the Russian problem. He reviews first the factors which led to the revolution of 1919 and contributed towards the accession to power of the Bolshevist dictatorship; then, after outlining the principal features of the Soviet regime and the home and foreign policy of the Soviet Government, he describes the results of Soviet policy in the economic and social fields, stressing the complete change of front which took place in this policy from 1921 onwards. The concluding chapters deal with the famine in Russia, the probable developments of the Russian question, Russian foreign policy, particularly as regards the Far East, and the part which Russia may be called upon to play in world progress.

Moore, Henry Ludwell. *Generating Economic Cycles.* New York, The Macmillan Company, 1923. 141 pp.

Professor Moore shows mathematically that data of rainfall in the United States exhibit a clearly defined 8-year cycle; that crop yields and crop and raw material prices in the United States, Great Britain and France move in a cycle coincident with this rainfall cycle; and that the whole of business moves in a similar periodic rhythm evidently generated by this crop cycle. The congruence of the economic and meteorological cycles suggests that their cause must be sought in a cosmical cycle. Professor Moore indicates as a probable cause the 8-yearly periodic motion of the planet Venus with respect to the earth and the sun, attributing to it an electro-magnetic influence upon terrestrial weather.

Nansen, Fridtjof. *Russia and Peace.* London, Allen and Unwin, 1923. 162 pp.

Dr. Nansen warmly advocates resumption of relations between Soviet Russia and other countries in the interest of all concerned, and considers that these relations should be based upon a true conception of the condition of Russia's trade, industry, agriculture and finance.

Nations of To-Day (The). Edited by J. BUCHAN. *Belgium and Luxemburg.* By G. W. T. ORMOND, M.A. London, Hodder and Stoughton, 1923. XVIII + 263 pp.

This volume is one of a series undertaken to provide a popular account of the history of various nations. See *Review*, Vol. IX, No. 2, February 1924, p. 310.

Norway Year Book 1924 (The). First year of issue. Edited by S. C. HAMMER, M.A. Christiania, Sverre Mortensen, 1923. 544 pp. 2 maps.

The " Norway Year Book " gives in a concise and convenient form information concerning geographical, political, economic, commercial, social and other conditions in the country, which has not hitherto been available in a single volume in any of the principal languages.

The preparation of the articles has in most cases been left in the hands of acknowledged authorities in the different fields and the work of the editor has been facilitated by the assistance of several official institutions and important private institutions and organisations.

Plaut, Th. *Entstehen, Wesen und Bedeutung des Whitleyismus, des englischen Typs der Betriebsräte.* Jena, Gustav Fischer, 1922. XII + 241 pp.

In the first part of his book Dr. Plaut considers the problems of labour and industry which had to be dealt with in Great Britain during and after the war, the most important being the question of establishing co-operation between employers and workers in the regulation of industrial conditions. The principles embodied in the Whitley Reports are outlined in the second part and the concluding parts describe the constructive work done by the Councils set up in accordance with the recommendations of the Whitley Committee. The statements are largely based on official documents.

Razous, Paul. *La sélection des travailleurs dans les offices de placement et dans les services d'embauche des entreprises.* Paris, Ravisse. 64 pp. 3 frs. 50.

After pointing out the differences between, and the features common to, vocational guidance and vocational selection, Mr. Razous indicates the bases of the latter. He examines the various points to be considered by employment agencies or the management of undertakings when engaging staff : age, sex, height, muscle, and other anatomical detail, memory, intelligence, eye-sight, hearing, heart, and the unfavourable symptoms which should determine rejection of the applicant for various occupations.

Reichs-Jugendwohlfahrtsgesetz und Schule. Friedrich Mann's Pädagogisches Magazin, No. 908. Langensalza, Beyer, 1922. 64 pp.

Reichs-Jugendwohlfahrtsgesetz und ländliche Wohlfahrtspflege. Friedrich Mann's Pädagogisches Magazin, No. 928. Langensalza, Beyer, 1923. 99 pp.

Reports of courses of lectures on the Child Welfare Act organised by the Society for Private Welfare Work (*Centrale für private Fürsorge*) in Frankfort-on-the-Main. The first volume deals with the relations between the school and child welfareorganisations, the second with the special problems of child welfare work in rural districts.

Rivas Vicuna, Manuel. *Convenciones Internationales sobre el Trabajo.* Santiago, Imprenta Universitaria, 1923. 56 pp.

Mr. Rivas Vicuna, Government Delegate (Chili) to the Assembly of the League of Nations and the International Labour Conference, has brought together in this pamphlet the various articles on the work of the International Labour Conferences published by him in *El Mercurio*, of Santiago. These articles are an eloquent plea

for the ratification by Child of the International Labour Conventions, the subject and object of which are ably expounded.

Sells, Dorothy. *The British Trade Boards System.* London, P. S. King and Son, 1923. VI + 293 pp.

A question frequently asked by persons concerned with reconstruction problems in the field of labour has been " How has the Trade Boards System developed in Great Britain and how has it worked under the test of time and economic chaos ? " In tracing the history and examining the operation of the British Trade Boards during the thirteen years since the passing of the original Act of 1909, the writer has brought together a large amount of information and contributed to the answering of the question.

An outline is given of the working of the Trade Boards System and the special problems which arise are discussed in detail. The system of the enforcement of the legal minimum rates of wages fixed by the Trade Boards is described, and the importance of an inspectorate adequate to prevent evasion emphasised. The arguments for and against the establishment of district committees to take into account the cost of living and other special conditions in the locality covered are given, and the provisions whereby workers, incapable because of infirmity or physical injury of earning the minimum time rates fixed, may be granted permits of exemption are examined.

The economic effects of the Trade Boards System are considered, special reference being made to the effects on wages, hours of labour, employment, costs of production, output and prices. A clear distinction is drawn between the purpose and nature of the Act of 1909 and that of 1918. With regard to the first Act, which had as object the abolition of sweating, almost complete agreement as to its beneficial results to the employer, the worker and to society as a whole is claimed. The 1918 Act which extended the scope and powers of the Trade Boards has been severely criticised in some quarters. The writer points out, however, that a considerable part of the period since the Act was passed has been of exceptional difficulty owing to the economic depression. She considers that despite the difficulties the results have been generally satisfactory. Certain amendments are suggested for the improvement of the administration of the Trade Boards and of the machinery for fixing wages. An article on this subject by the same author was published in the *Review* for August 1923.

Social and Labour Conditions in Sweden. Reprinted from the *Swedish Year Book, 1923.* 27 pp.

A brief description of the legal provisions for the protection of workers in Sweden ; the scope of social insurance ; the administration of poor relief ; the work of the labour exchanges ; the steps taken to prevent or mitigate unemployment ; emigration ; the organisation of workers and employers, together with some account of collective agreements, strikes and lock-outs, and legislative provisions for mediation in labour disputes ; the fluctuations during recent years in the cost of living and wages ; the housing problem ; the movement towards Prohibition ; and the position of the co-operative societies.

Strat, Georges. *Le rôle du consommateur dans l'économie moderne.* Paris, Editions de la Vie Universitaire, 1922. 252 pp. 12 frs.

Mr. Strat shows that during the Middle Ages the protection of the consumer was a social necessity, that the revolution in industrial technique during the eighteenth century brought into greater prominence the problems of production, but that the economic and social upheavals of the present day again direct public attention to the problems of distribution and consumption. He reviews the various ways of protecting their interests open to consumers, either individually, in groups or associations, or with the assistance of the state. Finally he examines the part played by the consumer in the modern economic structure and concludes that neither antagonism between the consumer and the producer, nor the predominance of either, is desirable ; close collaboration alone can assure a stable economic system.

Strub, Walter. *Die Statistik der Ueberzeitarbeit in Fabriken.* Reprint from *Zeitschrift für schweizerische Statistik und Volkswirtschaft,* pp. 370-376.

After showing the importance, not only to the employer and the worker, but

also to the arbitration committees and the employment agencies, of knowing the measure in which overtime is actually worked, Dr. Strub explains the method, based on Swiss factory statistics, by which may be determined the average number of employees working daily over-time, the percentage of these employees in relation to the total number of workers, the average number of hours of overtime worked per worker, etc. The figures given are arranged by sex and by industry.

Applying his method to the town of Basle, Dr. Strub observes that, in that Canton, the establishments which have instituted a 52-hour week are those employing principally women and young girls. He infers that the assertion frequently made that the employment of women and children goes hand in hand with the practice of habitual overtime is justified.

Tessier, Gaston. *Un progrès social. La journée de huit heures.* Paris, Editions Spes. 91 pp. 3 frs 50.

In this pamphlet in support of the 8-hour day Mr. Tessier, a member of the *Conseil supérieur du Travail*, outlines the provisions of the French law of 23 April 1919, and describes the attitude of successive Governments in regard to it, how it is applied and how the trade unions — more especially the Christian unions — have fought for its maintenance. A review of the position in other countries, particularly in Germany, and a summary of the discussions at the International Labour Conference, complete the analysis of the position considered from the legislative view-point.

Special chapters are devoted to a study of the effects of the eight-hour day on production, and the economic and social results of the French law. "The eight-hour day", concludes Mr. Tessier, "has not impeded the industrial and commercial activity of the country".

Thompson, W. H. *Workmen's Compensation, 1924; An outline of the Acts.* London, Labour Publishing Co., 1924. 110 pp.

The aim of this little book is to set forth in simple language free from legal technicalities the law relating to workmen's compensation as amended by the new Act of 1923.

Warbasse, James P. *Co-operative Democracy.* New York, The Macmillan Company, 1923. 493 pp.

Mr. Warbasse maintains that the profit motive which actuates all business is responsible for the recurrent overproduction in all industrial countries, and is a potent cause of political corruption, social dishonesty, poverty, crime, disease, ignorance and warfare. He advocates that the majority of the people in each country become organised in co-operative societies and that these organisations take over the functions at present performed for profit-making purposes as also the useful functions performed by states. The co-operative societies of each country should federate to form a national organisation and the national co-operative organisations should federate to form the co-operative society of the world — the co-operative democracy.

It is particularly emphasised that the abolition of profit making business and the political state should not be attempted by force, but should be accomplished by virtue of the ability of the co-operative movement to serve the people more effectively and efficiently than these institutions.

Mr. Warbasse compares the aims and methods of co-operation with those of the various labour movements and describes the various forms and expressions of co-operation and its progress in the different countries.

Willoughby, W. C. *Race Problems in the New Africa. A study of the relation of Bantu and Britons in those parts of Bantu Africa which are under British control.* Oxford, Clarendon Press, 1923. 294 pp. 2 maps.

Prolonged residence and research among the Bantu tribes, coupled with sympathetic understanding of the native outlook, have enabled the author to assemble the valuable material presented in these pages. Accurate knowledge of tribal life, he points out, is essential to effective trusteeship as conceived in the manda-

tory system of the League of Nations, and questions of race-contact must be considered in the light of such glimpses of the " real inwardness " of the more primitive peoples as it is possible for Europeans to obtain. The book is in three parts. The first two show the Bantu in their racial and geographical setting, laws and customs, Bantu life and thought apart from European influence. They are, in effect, a necessary introduction to the most interesting part of the book, i. e. that which deals with native labour and the problems of government in Bantu areas. Such important questions are here discussed as the native land question, education, imported and forced labour, cost and efficiency of native mine-labour, how to increase the supply of labour, conditions of labour of natives in European employ, in tribal areas and in the European towns, housing (town locations), and welfare work among dwellers in native quarters. The author describes also the conditions which European settlers have to face, and the different classes of employers. Finally, he discusses the colour bar, the causes of group aversion and the future outlook as regards the Europeanisation of the Bantu.

Year Book of the National Farmers' Union for 1924. London, 1924. 328 pp. 1s.

Zawadzki, Wladyslaw. *Teorja Produckcji. Proba zbadania spolecznych Warunkow produkcji.* Bibljoteka Wyzszej Szkoly Handlowej. Warsaw, Gebethner i Wolff, 1923. 600 pp.

The author, Professor at the Vienna University, shows that regularity of production is possible only in a social environment where harmony reigns. To each type of production corresponds a definite social structure. He distinguishes five chief types of production : the primitive production of backward or semi-civilised peoples, production based on compulsion as in ancient times, the patriarchal form of production understoodto have generally obtained during the Middle Ages, modern individual production, and collective production which may be the predominant type of the future. Mr. Zawadzki deals at great length with individual production. He considers that it can successfully develop only in a society offering the following characteristics : individualisation of the productive forces, individual will to work, and barter or free exchange of goods or money for the labour expended by the producer. At first sight the doctrines held by the liberal school may seem best able to maintain the requisite conditions, but these doctrines overlook certain essential factors. The author discusses, finally, the possibilities of collective production and the necessary corresponding social conditions. A summary in French occupies some ten pages.

Zwetzbacher, Josef. *Funfundzwanzig Jahre landwirtschaftliche Genossenschaftswesen in Niederösterreich.* Festschrift, Sept. 1923. Vienna, N-ö Landes-Landwirtschaftskammer. 64 pp.

Memorandum published on the occasion of the twenty-fifth anniversary of agricultural co-operation in Austria, in which are described the progress of the movement and the present position of the Austrian co-operative societies.

OTHER PUBLICATIONS RECEIVED BY THE OFFICE

Alexinsky, Grégoire. *Du tsarisme au communisme. La révolution russe. Ses causes, ses effets.* Paris, Colin, 1923. 288 pp.

Pilenco, Al. *La Fédération soviétique.* Reprinted from the *Revue générale de droit international public.* Paris, A. Pedone, 1923. 19 pp.

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